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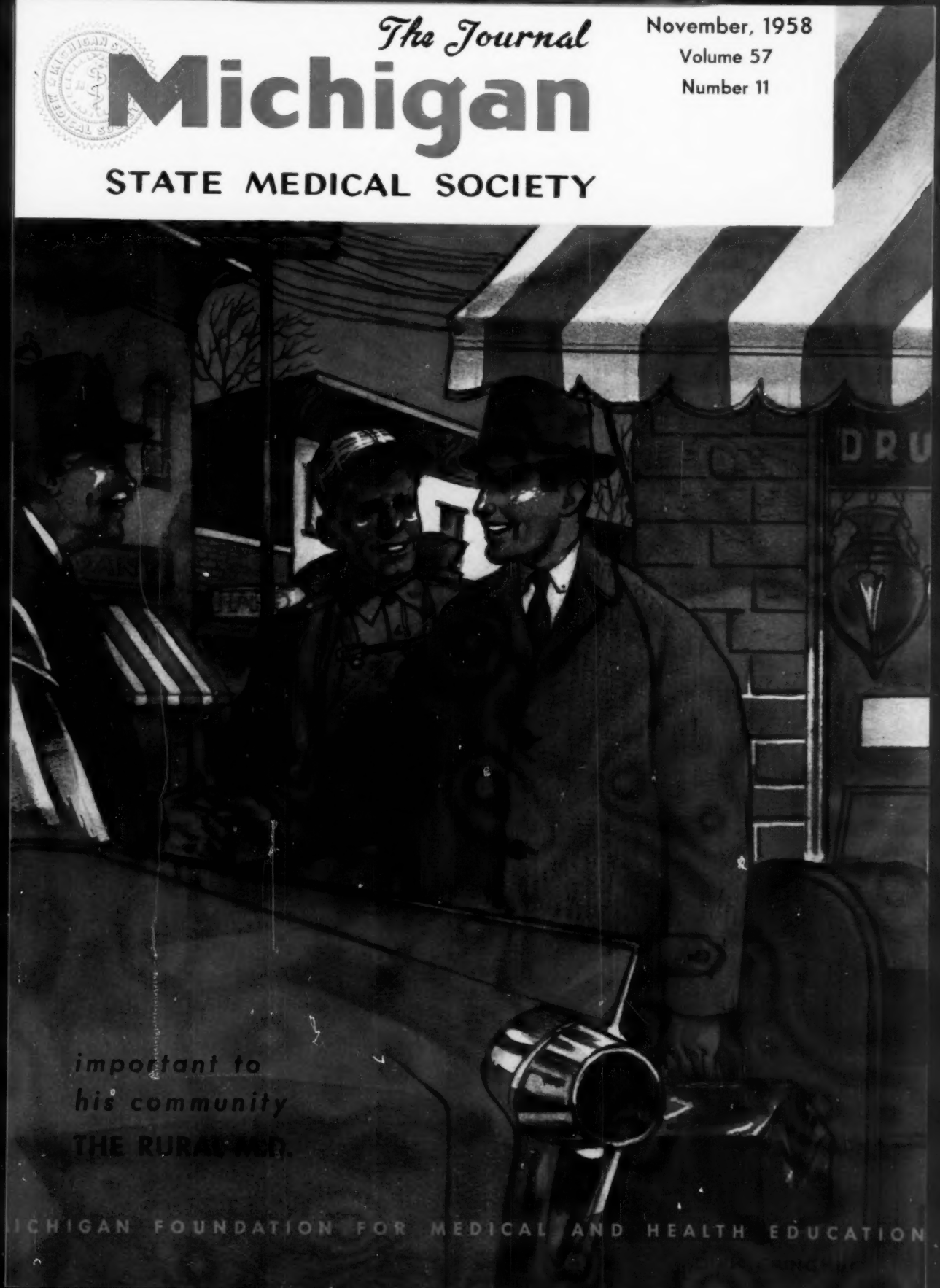

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REFERENCES: (1) Royer, A., in Welch, H., & Martí-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 783. (2) Waisbren, B. A., & Strelitzer, C. L.: *Arch. Int. Med.* **101**:397, 1958. (3) Koch, R., & Donnell, G.: *California Med.* **87**:313, 1957. (4) Roy, T. E.; Collins, A. M.; Craig, G., & Duncan, I. B. R.: *Canad. M. A. J.* **77**:844, 1957. (5) Cooper, M. L., & Keller, H. M.: *J. Dis. Child.* **95**:245, 1958. (6) Caswell, H. T., *et al.*: *Surg., Gynec. & Obst.* **106**:1, 1958. (7) Brown, J. V.; Sedwitz, J. L., & Hanner, J. M.: *U. S. Armed Forces M. J.*: **9**:161, 1958. (8) Sarason, E. L., & Bauman, S.: *Surg., Gynec. & Obst.* **105**:224, 1957.

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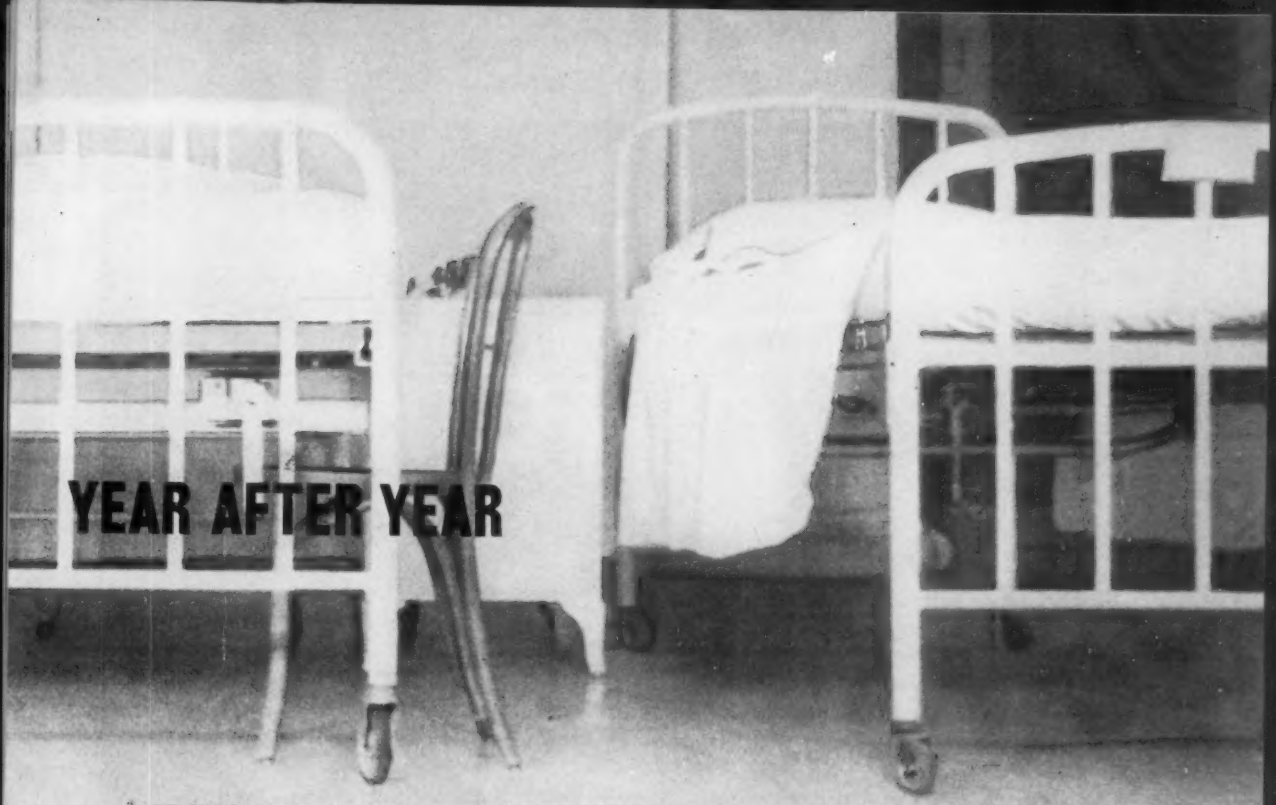
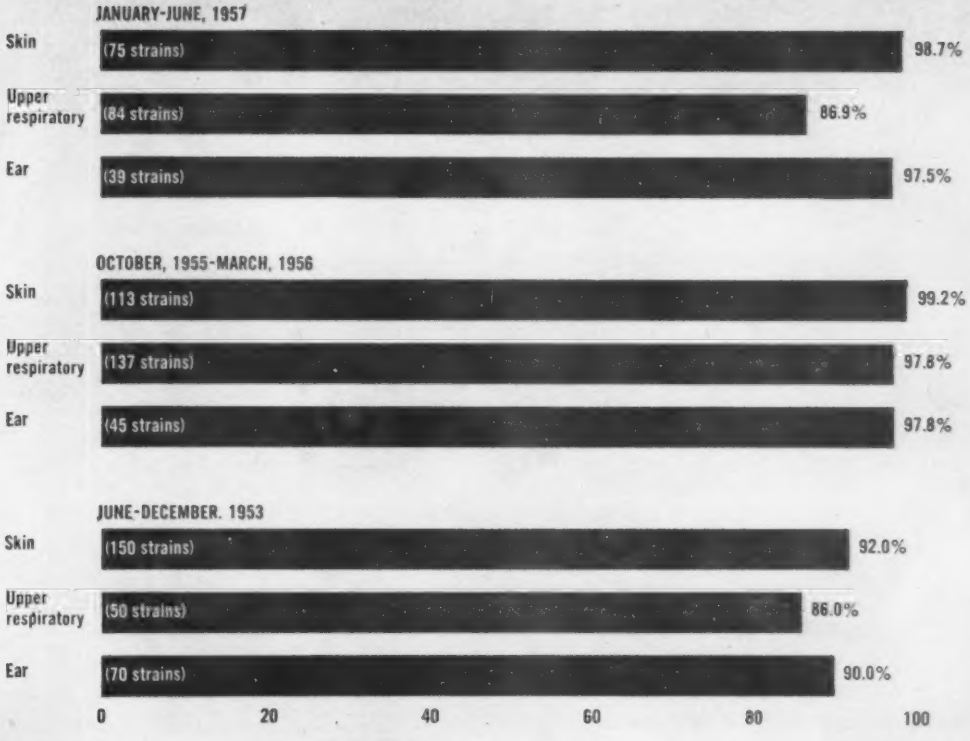


YEAR AFTER YEAR

IN VITRO SENSITIVITY OF STAPHYLOCOCCI FROM THREE FOCI OF INFECTION TO CHLOROMYCETIN FROM 1953 TO 1957*



*Adapted from Royer.[1]

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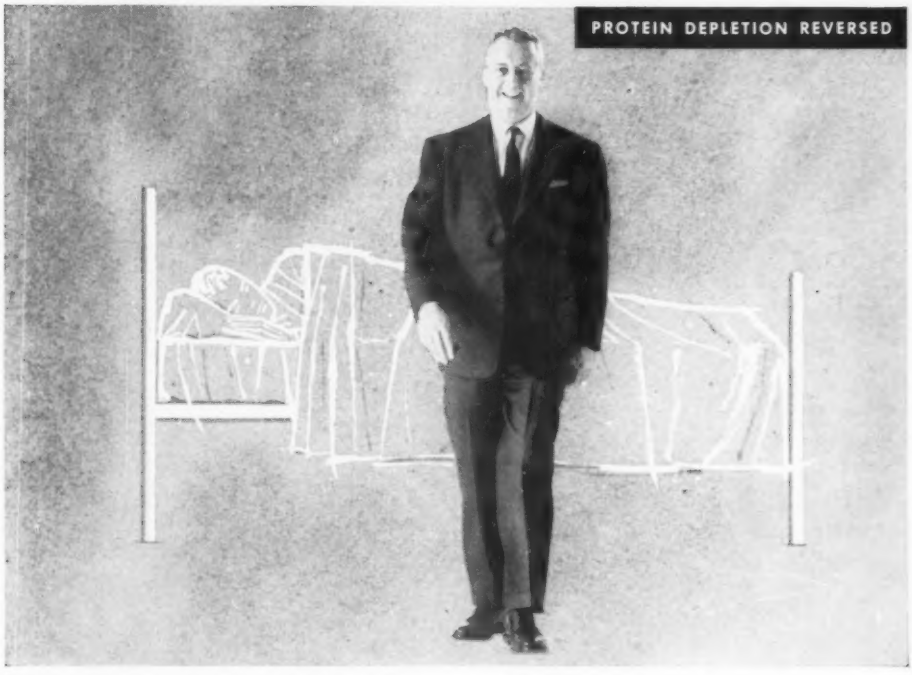

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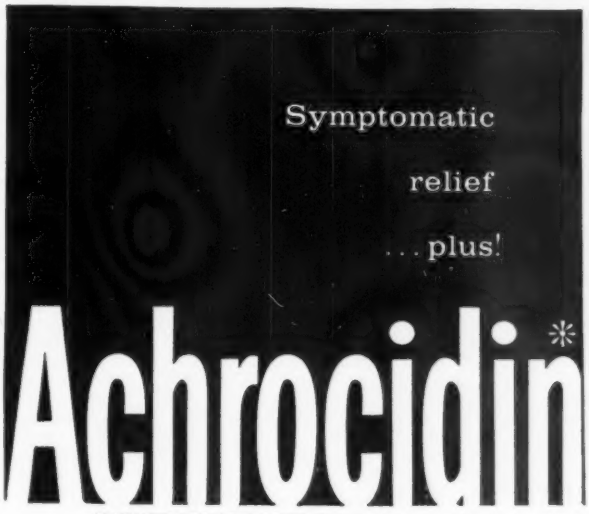

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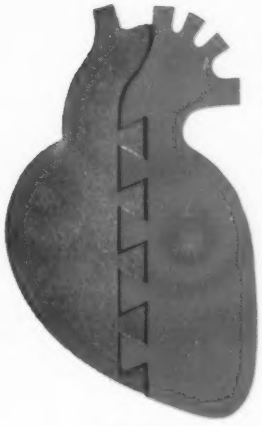

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1. *Friedlander, H. S.: The role of ataraxics in cardiology. Am. J. Card.* **1**:395, *March 1958.*
2. *Shapiro, S.: Observations on the use of meprobamate in cardiovascular disorders. Angiology* **8**:504, *Dec. 1957.*

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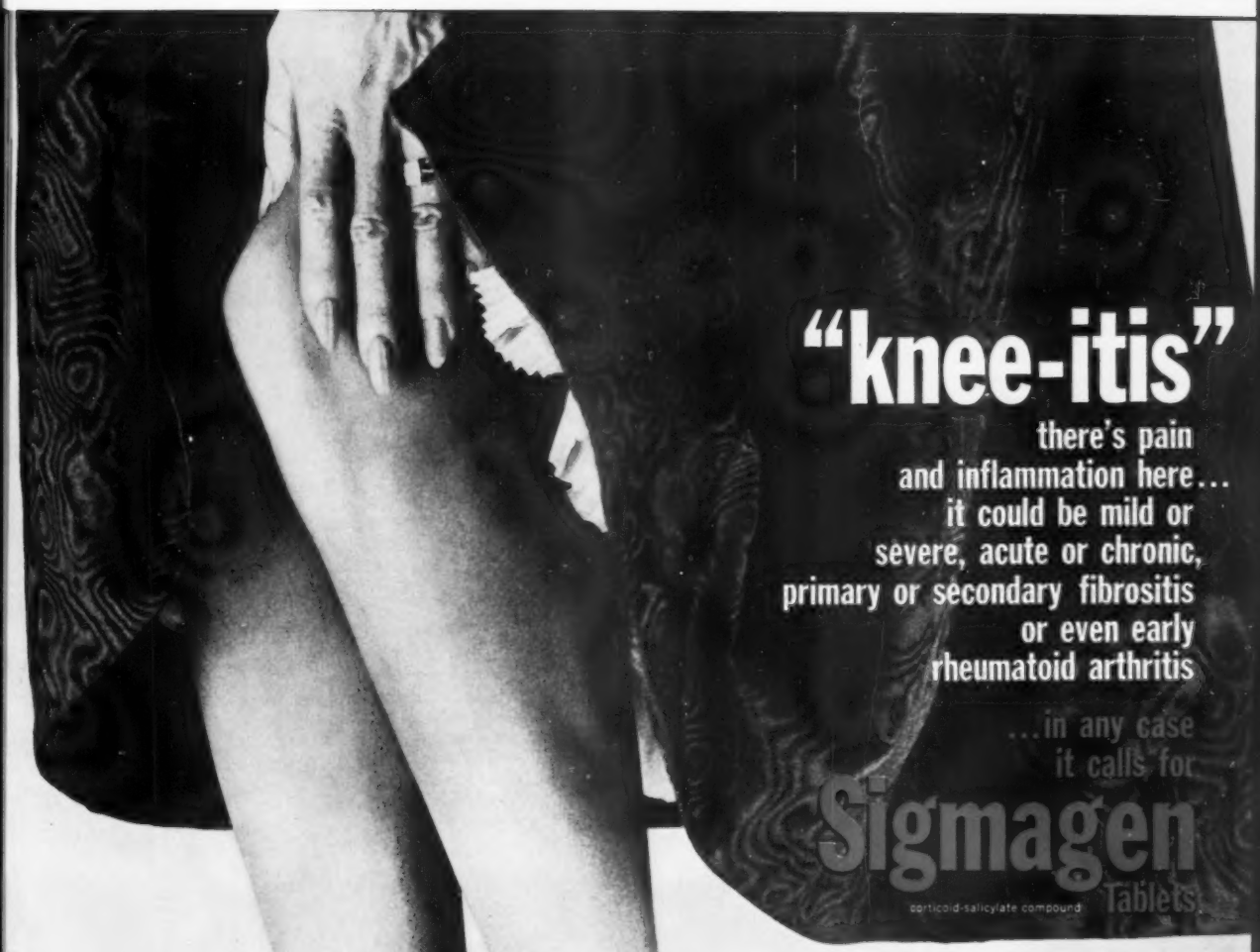

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References: 1. Spies, T. D., **et al.:** J.A.M.A. **159**:645, 1955. **2.** Spies, T. D., **et al.:** Postgrad. Med. **17**:1, 1955. **3.** Gelli, G., and Della Santa, L.: Minerva Pediat. **7**:1456, 1955. **4.** Guerra, F.: Fed. Proc. **12**:326, 1953. **5.** Busse, E. A.: Clin. Med. **2**:1105, 1955 **6.** Sticker, R. B.: Panel Discussion, Ohio State M. J. **52**:1037, 1956.

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Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

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Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

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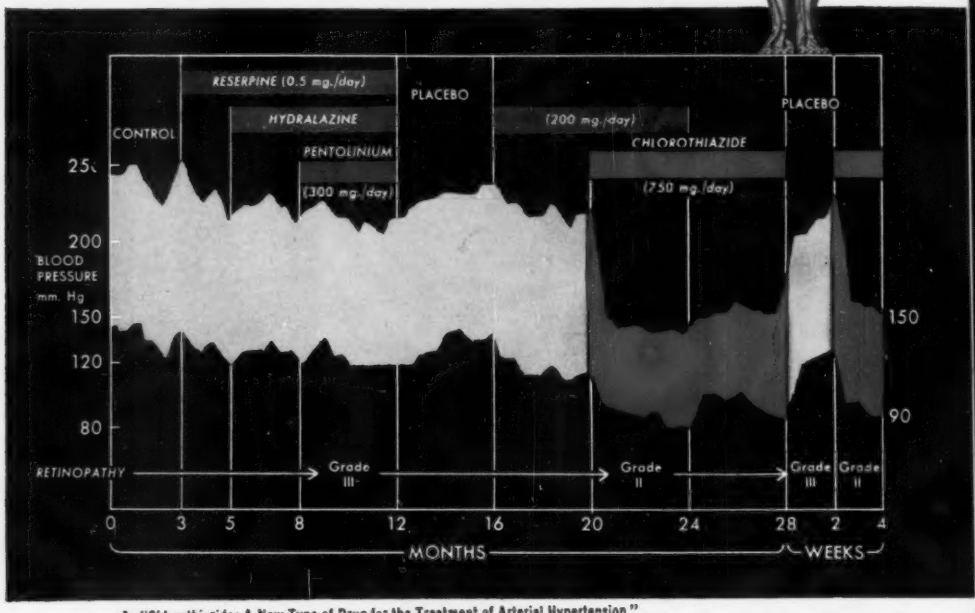

In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension," Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957.

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Feb. 11	Maternal Health Day	Flint
March 11-13	Michigan Clinical Institute, Sheraton-Cadillac Hotel	Detroit
Spring	MSMS Postgraduate Extramural Courses	Statewide
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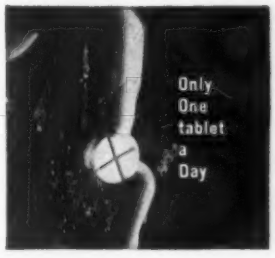

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references:
1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958
2. Editorial: *New England J. Med.* 258:48-49, 1958.

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NEW! PEDIATRIC DROPS
(orange-flavored) 5 mg. per drop,
calibrated dropper, 10 cc. bottle

Proven in research

1. Highest tetracycline serum levels
2. Most consistently elevated serum levels
3. Safe, physiologic potentiation (with a natural human metabolite)

And now in practice

4. More rapid clinical response
5. Unexcelled toleration

COSA-TETRASTATIN*

glucosamine-potentiated tetracycline with nystatin

antibacterial plus added protection against monilial superinfection

CAPSULES (black and pink) 250 mg. Cosa-Tetracyn (with 250,000 u. nystatin)

ORAL SUSPENSION 125 mg. per tsp. (5 cc.) Cosa-Tetracyn (with 125,000 u. nystatin), 2 oz. bottle

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glucosamine-potentiated tetracycline—analgesic—antihistamine compound

For relief of symptoms and malaise of the common cold and prevention of secondary complications

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REFERENCES: 1. Carlozzi, M.: Ant. Med. & Clin. Therapy 5:146 (Feb.) 1958. 2. Welch, H.; Wright, W. W., and Staffa, A. W.: Ant. Med. & Clin. Therapy 5:52 (Jan.) 1958. 3. Marlow, A. A., and Bartlett, G. R.: Glucosamine and Leukemia. Proc. Soc. Exp. Biol. & Med. 84:41, 1953. 4. Shalowitz, M.: Clin. Rev. 1:25 (April) 1958. 5. Nathan, L. A.: Arch. Pediat. 75:251 (June) 1958. 6. Cornbleet, T.; Chesrow, E., and Barsky, S.: Ant. Med. & Clin. Therapy 5:328 (May) 1958. 7. Stone, M. L.; Sedlis, A., Bamford, J., and Bradley, W.: Ant. Med. & Clin. Therapy 5:322 (May) 1958. 8. Harris, H.: Clin. Rev. 1:15 (July) 1958.

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"MCI—THE COURSE THAT REFRESHES"

W. S. Jones, M.D.

W. S. Jones, M.D., of Menominee, General Chairman of Arrangements for the 1959 Michigan Clinical Institute, announces the theme of this four-day refresher course as "The Course That Refreshes."

"The MCI program next year will continue to stress up-to-date diagnosis and treatment of practical value in everyday practice," stated Doctor Jones. "Some thirty-five eminent clinicians and teachers will present new procedures and information that will help doctors of medicine to gain useful solutions to problems presented in daily practice."

Some of the speakers invited to appear at the 1959 MCI, scheduled for the Sheraton-Cadillac Hotel, Detroit, March 10-11-12-13, are:

Allan C. Barnes, M.D., Cleveland, Ohio
Charles G. Child, III, M.D., Boston, Massachusetts
Wm. L. Estes, Jr., M.D., Bethlehem, Pennsylvania
Harry H. Gordon, M.D., Baltimore, Maryland
Governor Leo A. Hoegh, Washington, D. C.
Harry J. Loynd, Detroit, Michigan
Joe V. Meigs, M.D., Boston, Massachusetts
Karl A. Menninger, M.D., Topeka, Kansas
Aims C. McGuiness, M.D., Washington, D. C.
Isidor S. Ravdin, M.D., Philadelphia, Pennsylvania
Jonas E. Salk, M.D., Pittsburgh, Pennsylvania
James K. Stack, M.D., Chicago, Illinois

The complete program will be published in the December number of JMSMS. Members of the Program Committee, arranging this excellent postgraduate opportunity, are: W. S. Reveno, M.D., Detroit, Chairman; R. L. Mainwaring, M.D., Dearborn; J. M. Sheldon, M.D., Ann Arbor; J. M. Wellman, M.D., Lansing, and Paul deKruif, Ph.D., Holland, Advisor.

MSMS POSTGADUATE PROGRAM 1958-1959

The oldtime circuit-rider has a modern counterpart in a special group of physicians from Wayne State University and the University of Michigan Medical Center.

Soon these men will begin a lecture series to bring first-hand knowledge of the most recent developments in medicine to doctors throughout the state.

Touring seventeen Michigan cities, the faculty representatives will present lectures and clinical conferences for local physicians.

John M. Sheldon, M.D., director of the U-M department of postgraduate medicine, expects nearly one thousand doctors will enroll in the lecture series this year.

The program is directed by the U-M Medical Center in cooperation with the Michigan State Medical Society, the Michigan Department of Health and the College of Medicine at Wayne State University.

Major emphasis in the lectures this year will be placed on staphylococcus infections, diabetes, psychiatric techniques and tranquilizers.

Programs will be held in: *Alpena, Battle Creek, Bay City, Jackson, Lansing, Midland, Muskegon, Port Huron, Roscommon,* and *Traverse City* in the lower peninsula.

In the upper peninsula, programs will be conducted at *Escanaba, Menominee, Iron Mountain, Sault Ste. Marie, Ironwood, Houghton,* and *Marquette.*

STATEMENT OF POLICY

The World Medical Association is of the opinion that there should be closer cooperation between international organizations having the health of the people of the world as one of their objectives. The public is gravely concerned about events which may affect their health and longevity. They turn to their doctors for information on these subjects. The doctors must be kept informed of the most advanced scientific research findings in order to provide their patients with the true facts. The World Medical Association has pledged itself to continue its activity in supplying the information that the doctors of the world need "To assist all peoples of the world to attain the highest possible level of health," and "To promote world peace."

JENKINS-KEOGH BILL, H. R. 10

Statement by Senator Harry F. Byrd, Chairman, Senate Finance Committee

H. R. 10 was introduced in the House of Representatives on January 3, 1957. It was not sent over to the Senate Finance Committee until July 30, 1958.

In accordance with the procedure, it was promptly sent to the Treasury Department for comment. The report from the Treasury was not received until today.

I am unable to understand why this bill was held in the Ways and Means Committee until July 24, 1958, (one year and six months) then

(Continued on Page 1514)

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with ample amounts of vitamins—B_1, B_6, B_{12}.

strengthen bodies with needed protein
Through the action of l-Lysine, cereal and other low-grade protein foods are up-graded to maximum growth potential.

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l-Lysine HCl	300 mg.
Vitamin B_{12} Crystalline	25 mcgm.
Thiamine HCl (B_1)	16 mg.
Pyridoxine HCl (B_6)	5 mg.
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Sorbitol	9.5 Gm.

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JENKINS-KEOGH BILL, H. R. 10

(Continued from Page 1512)

passed by the House on July 29, and sent over to the Senate just before adjournment of the current session.

We have hearings already set before the Senate Finance Committee for some days to come, and the Leader of the Senate has advised that beginning next week the Senate will be in session from 10 o'clock in the morning on.

This bill will be presented to the Senate Finance Committee for hearings at the earliest possible time. It is the policy of the Senate Finance Committee to have public hearings on all controversial legislation.

OFFICE OF THE SECRETARY OF THE TREASURY
Washington, D. C.

August 6, 1958

My dear Mr. Chairman:

This is in response to your request of July 31 for the views of this Department on H.R. 10, passed by the House of Representatives July 29, 1958.

In its present form, H.R. 10 would allow self-employed people to deduct amounts up to 10 per cent of their otherwise taxable income from self-employment, provided they invested such amounts in certain specified types of retirement funds, annuities and insurance contracts. There would be an annual ceiling on the deduction of $2,500 and a lifetime ceiling of $50,000. Larger annual exclusions would be allowed people who are over fifty when the bill goes into effect. The untaxed funds so invested would be taxable in full when they are withdrawn, presumably after the taxpayer reached the age of sixty-five and retired. In all cases, withdrawals would have to be started not later than the age of seventy.

The amended bill represents a substantial improvement over the prior version and largely meets technical objections to it. However, though it would allow smaller maximum tax deductions than the previous version, the amended bill would still involve a very substantial revenue loss, amounting to an estimated $365 million annually. This estimate assumes that actual deductions would be only a part of the maximum allowable, ranging from 15 per cent of the maximum for taxpayers with less than $3,000 of income to 66⅔ per cent of the maximum for those with more than $20,000 of income.

In view of the large impending deficit, which has made necessary the extension of existing tax rates on taxpayers generally, the special relief for a selected group of taxpayers contained in H.R. 10 does not appear to be justifiable.

The Treasury is concerned over the problems that self-employed people without pension coverage have in providing for their retirement needs. This question is one of great importance which poses a number of basic issues for the future formulation of our tax structure. We believe that these difficult issues can best be satisfactorily resolved under conditions when general tax reductions and basic reforms involving large tax savings can properly be considered.

While the bill before your Committee is relatively circumscribed, the revenue impact of this type of legislation would be much greater if the special tax deductions that this bill would grant to the self-employed were to be made equally available to all taxpayers. Among the taxpayers other than the self-employed who might have claims for similar legislation if H.R. 10 were adopted are: (1) employees not covered by industrial pension plans, (2) employees covered by pension plans who receive very small pensions and who would want tax relief for their own personal supplementary savings for retirement, and (3) employees under pension plans with high rates of employee contributions which are not now deductible.

The adoption of H.R. 10, in whatever limited or modified form, might well constitute a precedent resulting in more widespread adoption of this kind of special relief. If all taxpayers were allowed deductions for retirement savings up to 10 per cent of their adjusted gross income or $2,500 a year, with the maximum also raised for persons over fifty years of age, as provided in the bill, it is estimated that the revenue loss would be $3 billion a year. Again, this estimate is based on the partial degree of utilization of maximum allowances previously assumed for various income levels. There would be a substantially greater potential revenue loss if there were fuller utilization of the allowance.

It is, of course, axiomatic that the benefits of H.R. 10 would be of more importance to the higher bracket taxpayers among the eligible group, since these would be most likely to be able to make personal savings for retirement income and since their applicable tax rates would give them the greatest proportionate tax reduction for such savings as qualified for the deduction.

The cost of such selective relief may be appraised in relation to the fact that a ceiling of 60 per cent could be imposed on individual income tax rates at a considerably smaller revenue loss than would result under the proposal. A 55 per cent ceiling could be adopted on individual income tax rates for only a moderately greater revenue decrease than under H.R. 10.

The selective relief adopted under H.R. 10 would pre-empt amounts otherwise available for more general rate reduction and structural reforms. It would seem especially inappropriate to follow such an approach at a time when general tax relief and reform have had to be postponed.

Under the circumstances, the Department is opposed to the enactment of H.R. 10.

The Bureau of the Budget has advised the Treasury Department that there is no objection to the presentation of this report.

Sincerely yours,
DAN THROOP SMITH
Deputy to the Secretary

Honorable Harry F. Byrd
Chairman, Committee on Finance
United States Senate
Washington 25, D. C.

(Continued on Page 1522)

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Doctor...

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you can count on rapid relief from pain, swelling and stiffness followed by functional improvement and maintained on an uncomplicated, low-dosage regimen **with minimal chance of side effects†** **and without unexplained weight loss, anorexia, muscle cramps** as reported with certain other corticoids†

†Round-table Discussion by Leading Investigators, San Francisco, Calif., June 20, 1958.

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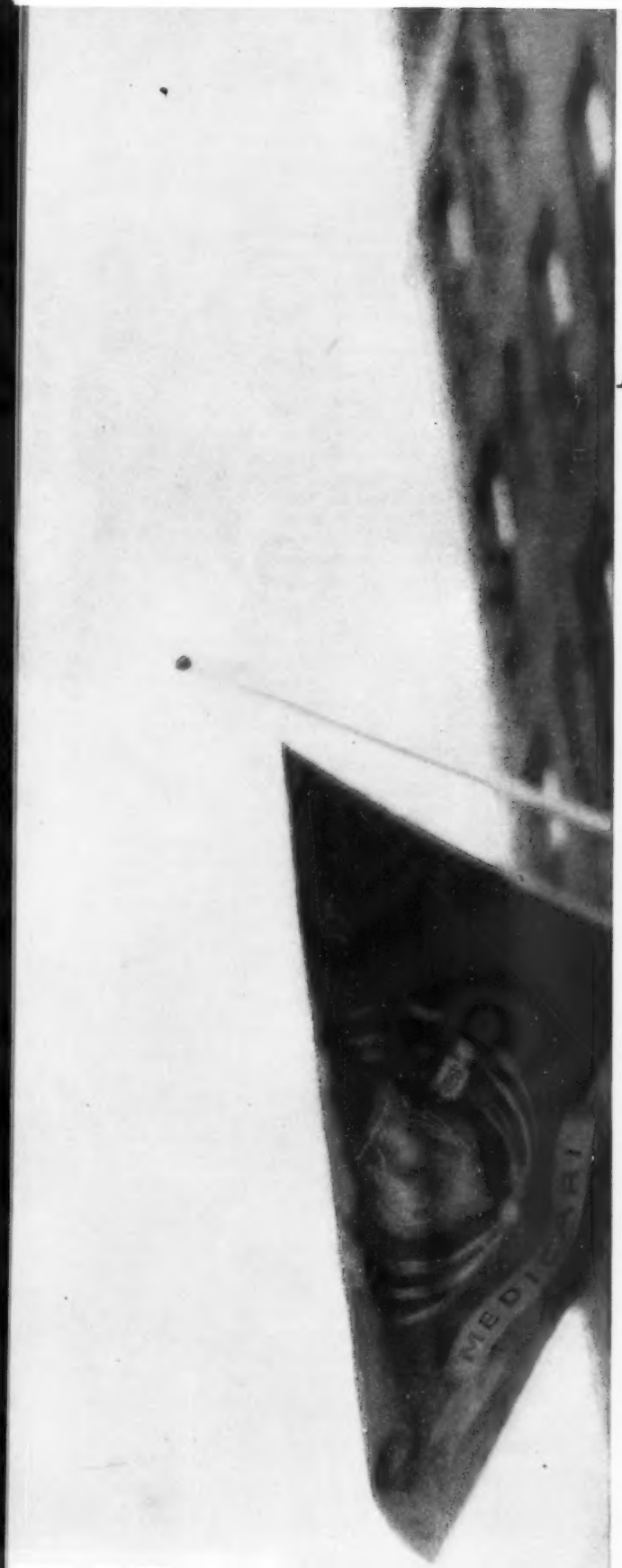

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When it comes to prescribing broad-spectrum antibiotics, physicians today most frequently specify ACHROMYCIN V.

The reason for this decided preference is simple.

For more than four years now, you and your colleagues have had many opportunities to observe and confirm the clinical efficacy of ACHROMYCIN tetracycline and, more recently, ACHROMYCIN V tetracycline and citric acid.

In patient after patient, in diseases caused by many invading organisms, ACHROMYCIN achieves prompt control of the infection—and with few significant side effects.

The next time your diagnosis calls for rapid antibiotic action, rely on ACHROMYCIN V—the choice of physicians in every field and specialty.

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(Continued from Page 1514)

SOCIAL SECURITY PAYMENTS STILL RUNNING AHEAD OF RECEIPTS

The Budget Bureau, in its annual midyear review of the federal budget, revives upward from last January the OASI and disability payments being made. OASI receipts for the last year are now estimated at $8.35 billion compared with payments of $9.49 billion. One reason for the rise is a payment of over $300 million to the railroad retirement account to help equalize the actuarial risk of the two systems. Disability payments, on the other hand, continue below receipts—$418 million compared with $957 million estimated to be taken in this year.

The Bureau said that for the rest of this fiscal year receipts and expenditures under social security amendments voted this summer will be about the same. With a further increase in tax rates scheduled for January 1, 1960, the fund should again start accumulating receipts by the end of fiscal 1960.—*AMA Washington Letter*

CANCER RESEARCH

The long-sought break-through in cancer research will probably come from the laboratory of some youthful scientist who is not afraid to pursue a seemingly "foolish" line of investigation.

This prospect was raised by Dr. John J. Bittner, director of the Division of Cancer Biology at the University of Minnesota, at the start of the fifth annual Cancer Retreat of The University of Michigan, held in a secluded lodge near Baldwin, Sept. 19-21.

"Too many of the older researchers are too cut and dried in their work today," Dr. Bittner commented. "We are reluctant to try anything which no one has tried before.

"By sticking to our sophisticated programs, we are failing to make the progress we desire, so we must now begin to test more imaginative ideas even though they seem foolish to us at the moment. Major developments could be made by young researchers—under age thirty—who are not strapped by conservative ideas."

Twenty-three University of Michigan faculty men—doctors and specialists—met with four nationally prominent guest speakers. In an atmosphere of informality and free discussion, they are exploring fundamental needs in cancer research.

Dr. Burton L. Baker of the University of Michigan Medical Center listed some of the most vexing problems facing cancer researchers today. They include:

1. The need to determine the cancer-producing effect of things we eat, including food preservatives and food additives.

2. The need to discover faster laboratory methods for testing cancer-causing substances.

3. The need to unravel the mysteries behind the spread of cancer from one body cell to another.

4. The need to bring scientists into the field of cancer research at an earlier age.

Co-chairmen of the program were Jere M. Bauer, M.D., Howard B. Latourette, M.D., of the University of Michigan Medical Center.

INTERN AND RESIDENT TRAINING AFFILIATION

Eighteen hospitals in fourteen communities throughout Lower Michigan are now affiliated with The University of Michigan Medical Center in an exchange program for the advanced training of interns and resident physicians.

New doctors after graduation from medical school must spend one year of training in a hospital as interns. Those who wish to specialize spend an additional year or more in training as residents.

Through the University of Michigan exchange program, the University gains outlets for training its interns and residents and the affiliated hospitals can send their trainees to the University of Michigan Medical Center for special study.

John M. Sheldon, M.D., professor of internal medicine and director of the University of Michigan Department of Postgraduate Medicine, described the four-part program now in effect:

1. A program which permits residents from the affiliated hospitals studying internal medicine, surgery, or obstetrics and gynecology to spend their three-year terms at the University of Michigan Medical Center. This includes a nine-month course in the basic sciences preparatory to the state board examinations.

2. A visiting program under which University staff members visit each affiliated hospital six or more times a year to examine and evaluate the training programs. In addition, a conference is held at the University of Michigan once a year so the educational committees from the affiliated hospitals may meet with University of Michigan staff members to coordinate and strengthen their program.

3. A program for training in general practice which provides annually for about ten internships of two years each. These interns spend alternating six-month periods at the University of Michigan and at the affiliated hospital.

4. A program for student experience in general practice which permits senior medical students to spend their vacation period working in affiliated hospitals. University of Michigan faculty members visit the hospitals participating in this program about twelve times each year.

(Continued on Page 1524)


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more potent and comprehensive treatment than salicylate alone
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INTERN AND RESIDENT TRAINING AFFILIATION

(Continued from Page 1522)

Dr. Sheldon said both the University and the affiliated hospitals benefit from such an exchange. The program provides additional training and experience for all residents and interns concerned and the supervision of the University coordinates and enhances the training programs of the affiliated hospitals.

The hospitals affiliated in this postgraduate medicine program are:

Residency and Visiting Programs.—Ann Arbor: St. Joseph's Mercy Hospital. *Battle Creek:* Leila Y. Post Montgomery Hospital. *Detroit:* Mount Carmel Mercy Hospital and St. Joseph Mercy Hospital. *Flint:* Hurley Hospital and McLaren General Hospital. *Grand Rapids:* Blodgett Memorial Hospital, Butterworth Hospital, and St. Mary's Hospital. *Kalamazoo:* Bronson Methodist Hospital. *Lansing:* St. Lawrence Hospital. *Pontiac:* Pontiac General Hospital. *Saginaw:* Saginaw General Hospital.

Training Program for General Practice.—Benton Harbor: Mercy Hospital. *Midland:* Midland Hospital. *Traverse City:* James Decker Munson Hospital.

Program for Student Experience in General Practice. — Adrian: Emma L. Bixby Hospital. *Owosso:* Memorial Hospital.

WMA ASSEMBLY REAFFIRMS PRINCIPLES OF MEDICAL CARE

The World Medical Association recognizes and supports only those medical care systems provided by Social Security that are approved by the national medical association of the country in which that system operates. In 1948, the Association adopted twelve principles to govern Social Security plans that include medical care. Governments and Social Security organizations frequently develop and try to impose medical care plans that violate these principles and therefore are not acceptable to the medical profession of the country.

Violations Reported. — The Twelfth General Assembly meeting in Copenhagen, Denmark, in August, 1958, received reports on medical care plans developing under Social Security systems in Italy, Japan and Peru to which the national medical association in each of these countries could not subscribe since these plans violated the principles governing:

. . . Free choice of doctor
. . . Freedom to prescribe medication and type of treatment
. . . Professional secrecy
. . . Professional autonomy and liberty

Principles Reaffirmed. — The Assembly reaffirmed its firm belief that whenever medical care is provided as part of the Social Security system provisions must be made to provide:

. . . Free choice of doctor by the patient
. . . No intervention of a third party between the doctor and patient
. . . No restriction of medication or mode of treatment by the doctor
. . . That there shall be no exploitation of the doctor, the doctor's services or the public by any person or organization.

The Twelfth General Assembly supported the complainant member associations for refusing to accept the plans of medical care services under Social Security plans that violated these, or any other of the twelve principles governing medical care.

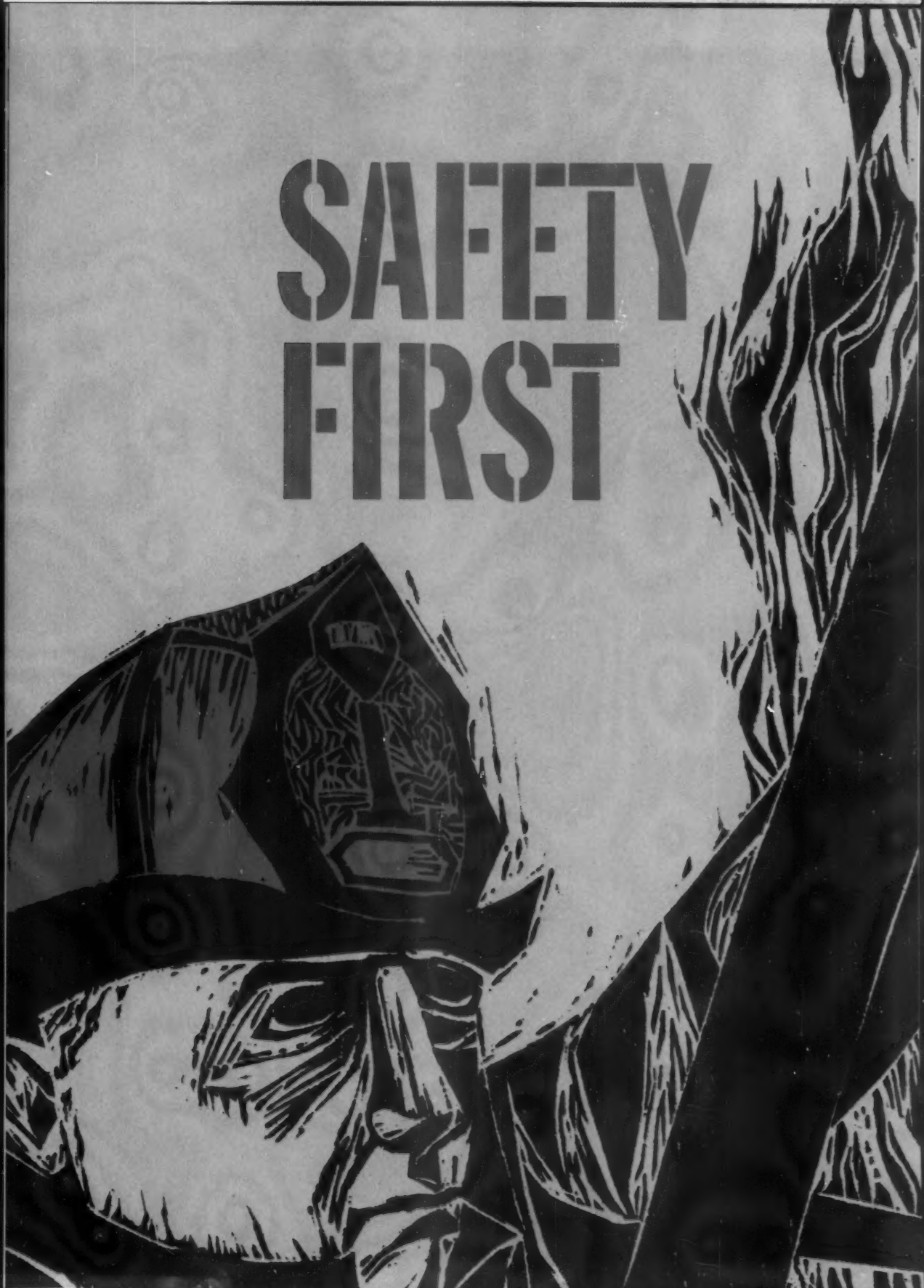
1959 Meeting Schedule.—The World Medical Association announces the following schedule of meetings for 1959:

Thirty-Fifth Council Session
Sydney, Australia
March 25 to April 4, 1959
Second World Conference on Medical Education
Chicago, Illinois
August 30-September 4, 1959
(Theme: Medicine—A Lifelong Study)
Thirteenth General Assembly
Montreal, Canada
September 7-12, 1959

Additional information on these meetings available from:

The World Medical Association
10 Columbus Circle
New York 19, New York

SAFETY FIRST



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Actually, after all this time, there has not been a single, serious reaction to ERYTHROCIN. Also, the problem of resistance has remained unusually low.

You'll find ERYTHROCIN highly effective against most coccal organisms. And it may well be the tool to counteract coccal complications following viral attacks.

Usual adult dose is 250 mg. four times daily. Dosage for children may be reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also available in tasty, cinnamon-flavored oral suspension; comes in 75-cc. bottles.

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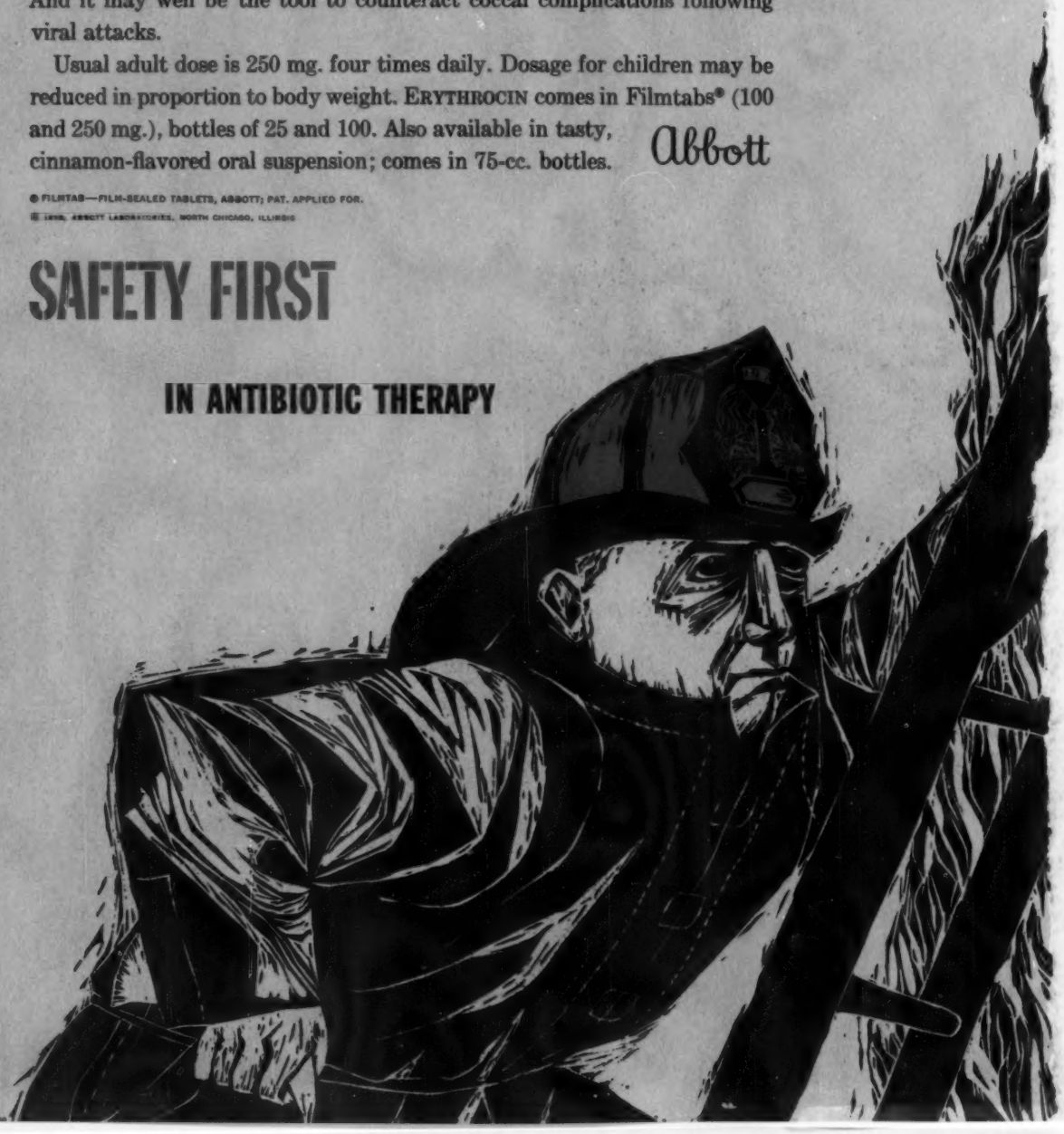
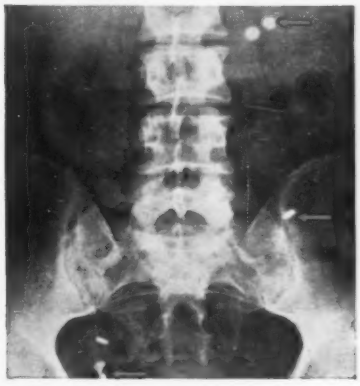


X-RAYS SHOW HOW ONE PYRIBENZAMINE® LONTAB®

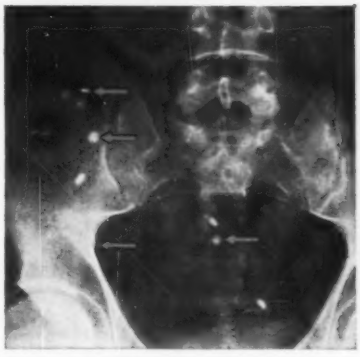
relieves allergy all day or all night

The unretouched X-ray films **show how Lontabs release medication in the digestive tract. So that the prolonged erosion of the Lontab core could be visualized by X-ray, subject was given 10 Lontabs, each containing 100 mg. of a radiopaque substance in place of Pyribenzamine.**

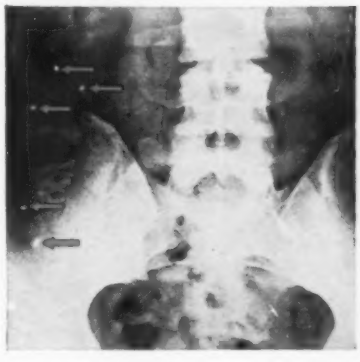
2 hours **Lontabs are in the stomach and small bowel. Release of core substance is well under way.**



4 hours **Lontabs are in the ileum and cecum as core has steadily eroded.**



8 hours **Lontabs are still visible as substance of core continues to be released.**



With its unique formulation, the Pyribenzamine Lontab not only relieves allergy symptoms promptly, but sustains relief as long as 12 hours.

Special outer shell **releases 33 mg. Pyribenzamine hydrochloride within 10 minutes.**

Unique core **releases approximately 18 mg. Pyribenzamine hydrochloride the 1st hour, approximately 50 mg. from the 2nd to the 12th hour.**

SUPPLIED: Pyribenzamine *Lontabs* — full-strength — 100 mg. (light blue).

NOW AVAILABLE: Pyribenzamine *Lontabs* — half-strength — 50 mg. (light green) — for children over 5 and for adults who require less antiallergic medication.

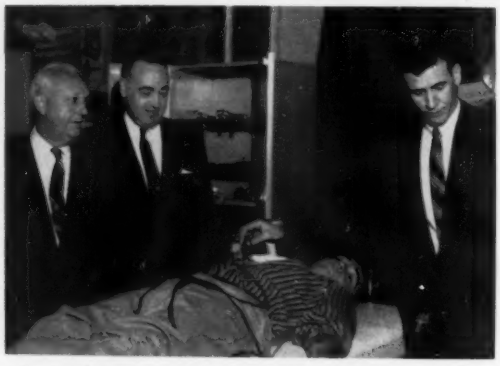
PYRIBENZAMINE® hydrochloride (tripelennamine hydrochloride CIBA)
LONTABS® (long-acting tablets CIBA)

C I B A SUMMIT, N. J.

PR REPORT

MEDICAL EQUIPMENT EXHIBITED AT SAGINAW COUNTY FAIR

The Saginaw County Medical Society recently developed, assisted by the Michigan State Medical Society, a public relations exhibit for use at the Saginaw County Fair, September 7-13. Ten



Inspecting the exhibit at the Saginaw County Fair sponsored by the County Medical Society and MSMS are *(left to right)* E. C. Galsterer, M.D. and Frank J. Busch, M.D. Demonstrating EKG equipment on David Busch is Ken Grimes of Randolph Surgical Supply Company.

thousand dollars worth of valuable physician's office equipment was borrowed from the Randolph Surgical Supply Company of Detroit and a simulated doctor's office was set up on the fairgrounds.

The instruments and equipment demonstrated to the public included an EKG machine, a basal metabolism respirator, an ophthalmoscope and an assortment of physician's examination instruments. X-ray view boxes, supplied by the Detroit X-Ray Company, were used to compare normal pictures with those of a cancerous stomach, an ulcerated stomach, a cancerous colon and lung.

A bronchoscope was displayed in conjunction with an exhibit of objects which had been removed from lungs and air passages of Saginaw area patients.

The viewing public asked many questions which were answered by doctors of medicine and medical assistants who helped in the exhibit. Members of the Woman's Auxiliary acted as hostesses, passing out literature, answering questions and inviting the public to walk through the exhibit.

Fair officials, who conducted an informal survey, stated that the medical society exhibit was the most attended and created the largest interest of any exhibit at the fair.

The week of the fair was proclaimed "Family Doctor Week" by the mayor of Saginaw.

PRESS HAILS USE OF ARTIFICIAL KIDNEY

The purchase of an artificial kidney by Bay City's Mercy Hospital clinical laboratories, operated by W. G. Gamble, Jr., M.D., received much publicity in the out-state press. Newspapers hailed the acquisition as a trend to bring latest scientific apparatus and material to areas other than Detroit and Ann Arbor medical centers.

The kidney was used in an effort to save the life of a crash victim.

AMA 1958 PR INSTITUTE

Is medicine aware of the changing events and shifting philosophies on the American scene? Is the profession adapting its activities to changing concepts and changing needs?

To answer these questions medical society representatives recently called upon four "experts," representing business, the insurance industry, labor and politics to air their views. An entire morning at the AMA's 1958 PR Institute was devoted to a give-and-take discussion of the problems in each of these important segments of American life to gain greater insight and understanding.

Chairman Hugh W. Brenneman, public relations counsel for the Michigan State Medical Society, set the stage for the discussion by asking each expert to discuss the most significant changes taking place in his field and explain how they relate to medicine.

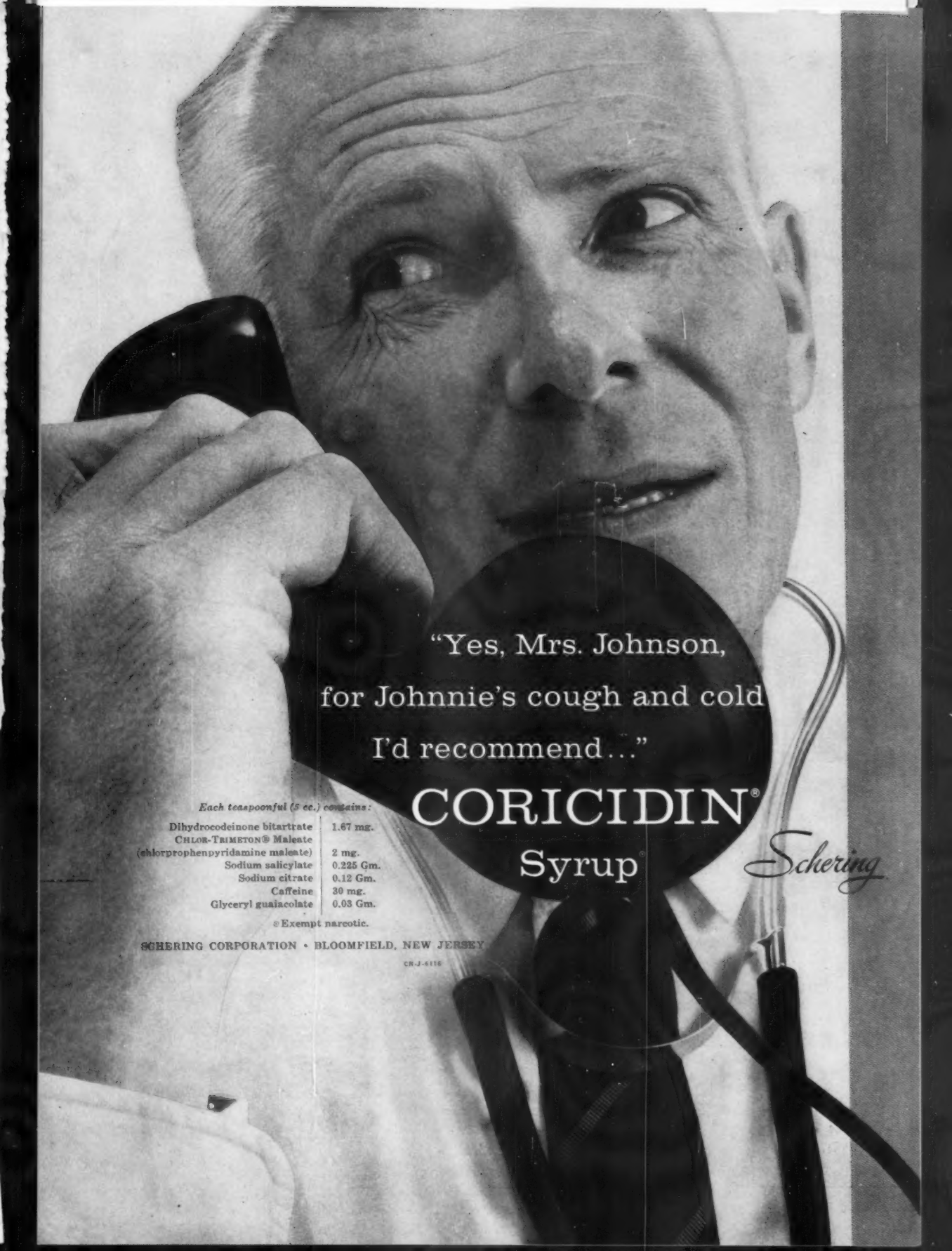
The two major problems facing the insurance industry are extension of coverage to senior citizens and the rising cost of health insurance, according to Morton Miller, New York, chairman of the Health Insurance Council.

Miller cited great gains in insurance coverage so that today 123,000,000 people—seven out of ten persons—have some protection. Americans have a wide range of coverages from which to choose, he said, but pointed out that ultimately the government may have to help those who are unable or unwilling to allocate enough of their funds for health benefits after retirement.

"The real challenge here is to find a way of doing so which will cause a minimum of disturbance to our fine system of private medical care and voluntary medical or health insurance," Miller said.

Leo Perlis, New York, director of community services activities for the AFL-CIO, said that changes in the science and practice of medicine as well as more health education resulting in a more health-conscious public, has created many medical economic problems. Other factors contributing to

(Continued on Page 1528)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(Continued from Page 1526)

these problems are the growth of collective bargaining and the extension of trade unionism, the acceptance of responsibility for the workers beyond the plant gates by both labor and industry, population increases, moves to the suburbs, automation and added leisure time.

Perlis said that even though tremendous gains have been made in extending insurance coverage, labor is not yet satisfied with what has been accomplished. Labor will not be satisfied until there is greater coverage with more benefits and action.

"The need for continuing, constant experimentation in the economic laboratories exists if we are going to make voluntary plans work. We need experimentation on plans not only to provide medical and surgical care in hospitals but home care, dental care, psychiatric care and nursing care," Perlis concluded.

The Hon. Thomas B. Curtis, congressman from the second Missouri congressional district, cited three basic economic factors in American life today—suburbanization, an economy of plenty, and a fast-growing population.

Our increased cost of living, Curtis said, in many cases indicates an increase in the quality and standard of living. Among these increases are better medical care and longer life.

"People get an awful lot more for one dollar of medical and hospital care today than they ever got before," Curtis said. "I think one reason hospital costs are going up and have gone up is that the patient now comes out on his own two feet, instead of in a coffin—and his hospital stay is less because of it."

Years of added life, according to the congressman, is levying a tax of inflation on America's older citizens, creating an economic problem. One solution to reduce this problem he suggested was to build modern nursing homes which can care for the aged at a reduced rate.

Jules W. Lederer, Chicago, president of the Autopoint Company, told the audience that public relations is a selling proposition based upon listening and communicating.

Lederer agreed with Perlis that there will be increased participation of government in medical care provision and that the medical profession should do a better public relations job of telling the advantages of our voluntary system and pointing the way for the future.

MICROCLIPS

About one doctor in ten thinks the American Medical Association needs no improvement—that it's satisfactory as it is.—*J. Med. Soc. New Jersey*, 55:77, 1958.

Now—the most widely prescribed tranquilizer[1] in sustained release capsules

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Two capsules on arising **last all day**
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relieve nervous tension on a *sustained* basis, without between-dose interruption

"The administration of meprobamate in sustained action form [Meprospan] produced a more uniform and sustained action . . . these capsules offer effectiveness at reduced dosage."[2]

Dosage: 2 Meprospan capsules q. 12 h.
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1. Meprobamate is more widely prescribed than any other tranquilizer. Source: Independent research organization; name on request.
2. Baird, H. W., III: A comparison of Meprospan (sustained action meprobamate capsule) with other tranquilizing and relaxing agents in children. Submitted for publication, 1958.

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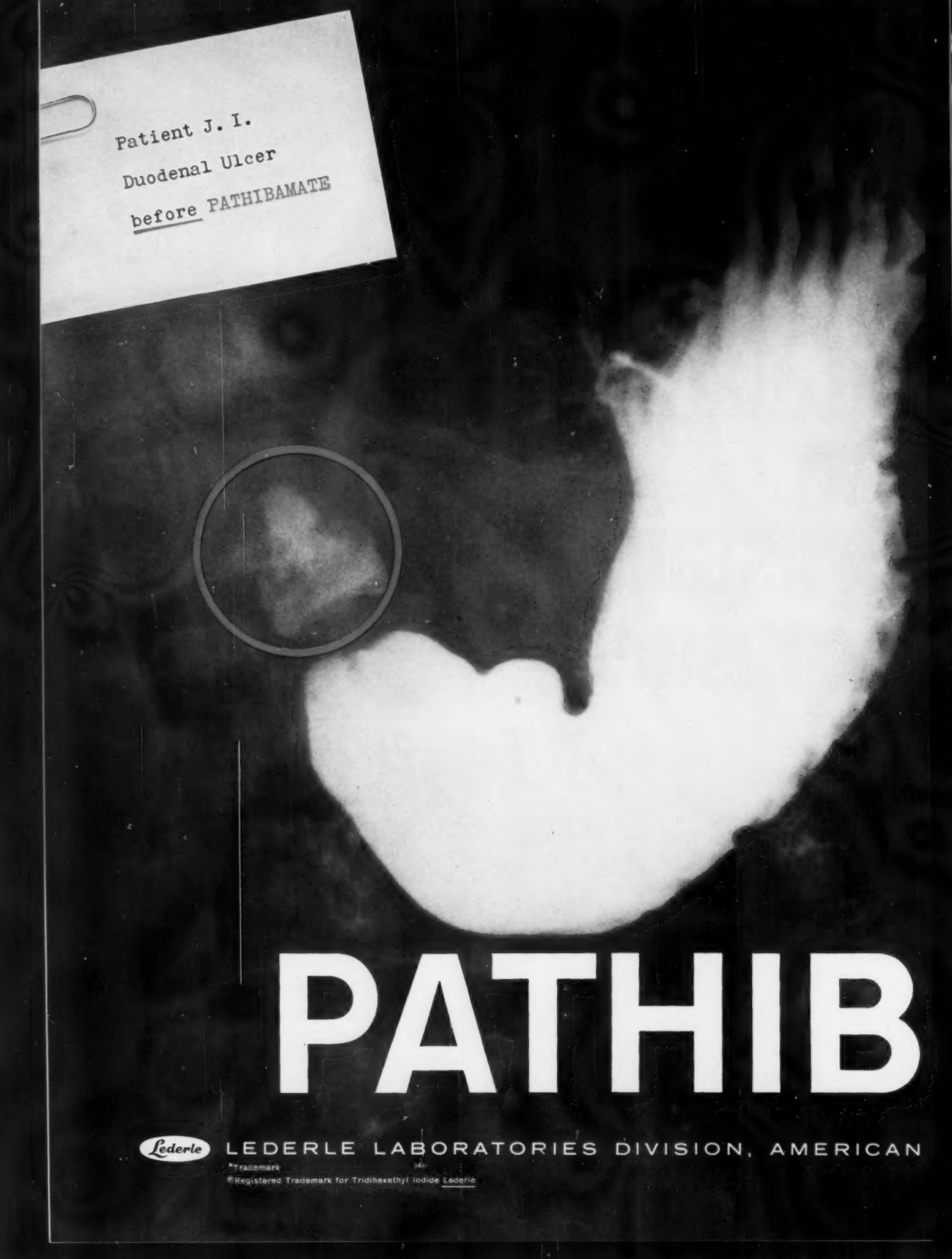

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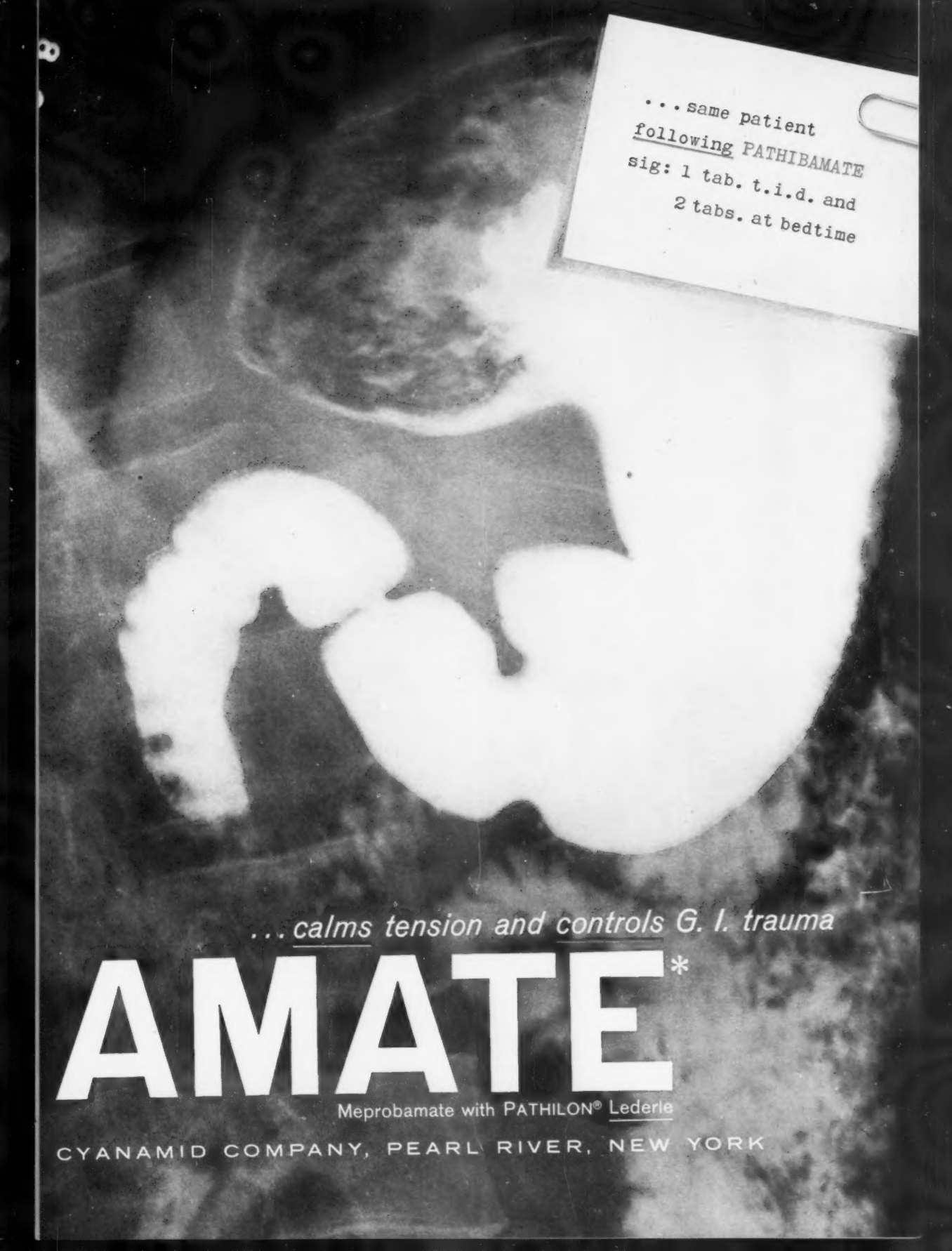
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Fred J. Drolett Named Michigan's Foremost Family Physician

Doctor Fred Drolett of Lansing is a medical doctor who began his service to humanity during the horse and buggy days and continues in this electronic age. Seventy-nine years young, Doctor Drolett is the proud example of the physician who has endeared himself to his colleagues, friends and patients.

In 1957, Dr. Drolett received the Lansing Lodge of Elks' Outstanding Citizen Award for fifty years of devoted service to the community as a doctor of medicine. In that same year, he also received the Fifty Year Award of the Michigan State Medical Society. On his birthday this past January he celebrated his 35th anniversary of the day he placed his shingle on the door of the office where he now practices.

Still very active, he makes his hospital rounds daily and, in fact, delivered the first baby born in Lansing in 1958 at 12:01 a.m., January 1.

During a long and distinguished medical career in Lansing, he has delivered more than 6,000 babies. He has served as Chief of Staff, as well as Chief of Obstetrics at St. Lawrence Hospital, and as Chief of Obstetrics at Sparrow Hospital. In 1941 he served as President of Ingham County

Dr. Drolett graduated from the Detroit College of Medicine in 1907. His two sons, Lawrence and Donald, are both practicing doctors of medicine in Lansing and a daughter, Dorothy, is a registered nurse.

William Osler once said, "The happiest and most useful lot given to man is to become a vigorous, whole-souled, intelligent General Practioner." Dr. Fred J. Drolett would wholeheartedly agree.

In an interview reported by *The Detroit Free Press*, Dr. Drolett said, "It's been a lot of fun and there is no profession like it in the whole world."

FRED J. DROLETT, M.D.

Helping to make it "a lot of fun" is Dr. Drolett's own recipe for a long and active life.

"I smoke five cigars a day," he said. "And," he added, patting his stomach, "I eat what I please."

THE COUNTRY DOCTOR

Nestled among the hills of old Thunder Bay
Lived the country doctor, on call night or day;
To him rich or poor, were all alike,
To reach them, he would if he had to use his bike;
Neither cold wintry winds, nor chill of the night,
Were any hazard to him, in doing the right;
For his practice he lived . . . his labor of love,
Most of his patients he saved, but some went above.

The country doctor, "May God bless his soul,"
Dedicated his whole life, to reach one goal;
For lives to save, was his only thought,
And money no object, as he could not be bought;
Neither fee nor fame was ever a lure
In doing his duty to the rich or the poor;
All the monument he seeks, after leaving this world,
Is a count of the babes he brought into the world.

Though the snow drifts were high, and the going was rough,
When duty called him, he was mighty and tough;
He would hitch his two geldings to his trusty sleigh,
And make all his rounds in old Thunder Bay;
When his life on earth eventually came to an end,
"It was good old doc." . . . affectionately known to men;
Another good doctor would now take his place,
But, to his countrymen, "Old Doc" was still their ace.

—BY FRED V. HAYFORD, M.D. Depicting practice at the turn of the century in rural Michigan.

Medicolegal Forms

Following are two additional simple forms selected by MSMS Legal Counsel from "Medicolegal Forms with Legal Analysis" prepared and published by the Law Department of the American Medical Association.

These forms are illustrative of those that the careful doctor will use in order to guard against liability for "invasion of the patient's right to privacy." These forms are offered with the usual reminder from Legal Counsel that standard printed forms should never be used indiscriminately nor relied upon blindly. In case of doubt—consult your lawyer.

AUTHORITY TO ADMIT OBSERVERS

PATIENT'S NAME _____ AGE_____ DATE _____

I hereby grant authority to Dr. _____ and to

_____ Hospital to permit the presence of such observers as they may deem fit to admit in addition to physicians and hospital personnel, while I am undergoing (operative surgery) (childbirth), examination, and treatment.

Signed _____

Witness _____

CONSENT TO TAKING OF PHOTOGRAPHS

In connection with the medical services which I am receiving from Dr._____, I consent that photographs may be taken of me or parts of my body, under the following conditions: (1) The photographs may be taken only with the consent of my physician or surgeon and under such conditions and at such times as may be approved by him. (2) The photographs shall be taken by my physician or by a competent photographer, approved by my physician. (3) These photographs shall be used for medical records only, unless, in the judgment of my physician, medical research, education, or science will be benefited by their use. In that event I agree that they may be used for such purposes, provided that my identity is not revealed by the photographs or by descriptive texts accompanying them.

_____ M.D. _____
(Patient)

_____ _____
Witness *(Parent or Legal Guardian)*

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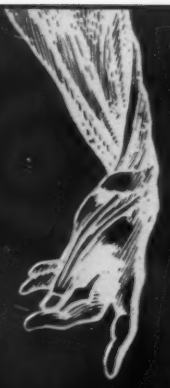

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PUBLISHED REFERENCES: 1. Carpenter, E. B.: Southern Medical Journal 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Little, J. M., and Truitt, E. B., Jr.: J. Pharm. & Exper. Therap. 119:161, 1957. 4. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: J. Am. Pharm. Assn., Sci. Ed. 46:374, 1957. 5. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 6. Park, H. W.: J.A.M.A. 167:168, 1958. 7. Truitt, E. B., Jr., and Patterson, R. B., Proc. Soc. Exper. Bio. & Med. 93:422, 1957. 8. Truitt, E. B., Jr., Patterson, R. B., Morgan, A. M., and Little, J. M.: J. Pharm. & Exper. Therap. 119:189, 1957.

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CONDITION	NO. PATIENTS	RESPONSE			
		"marked"	moderate	slight	none
STUDY 1[1]					
Skeletal muscle spasm secondary to acute trauma	33	26	6	1	—
		"pronounced"			
STUDY 2[2]					
Herniated disc	39	25	13	—	1
Ligamentous strains	8	4	4	—	—
Torticollis	3	3	—	—	—
Whiplash injury	3	2	1	—	—
Contusions, fractures, and muscle soreness due to accidents	5	3	2	—	—
		"excellent"			
STUDY 3[5]					
Herniated disc	8	6	2	—	—
Acute fibromyositis	8	8	—	—	—
Torticollis	1	—	—	1	—
		"significant"			
STUDY 4[6]					
Pyramidal tract and acute myalgic disorders	30	27	—	2	1
TOTALS	138	104 (75.3%)	28 (20.3%)	4	2

THE JOURNAL
American Medical Association

"In the author's clinical experience, methocarbamol has afforded greater relief of muscle spasm and pain for a longer period of time without undesirable side effects or toxic reactions than any other commonly used relaxants . . ."[3]

THE JOURNAL
American Medical Association

"An excellent result, following methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."[5]

THE JOURNAL
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"In no instance was there any significant reduction in voluntary strength or intensity of simple reflexes."[6]

Southern Medical Journal

"This study has demonstrated that methocarbamol (Robaxin) is a superior skeletal muscle relaxant in acute orthopedic conditions."[1]

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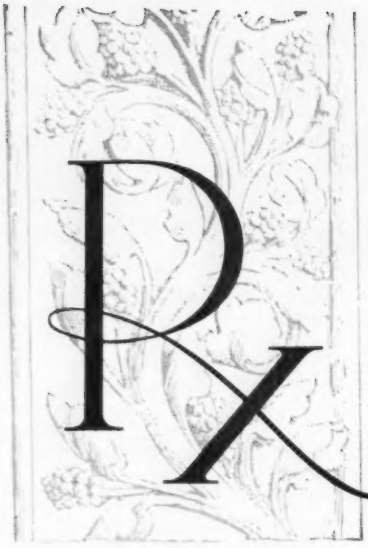

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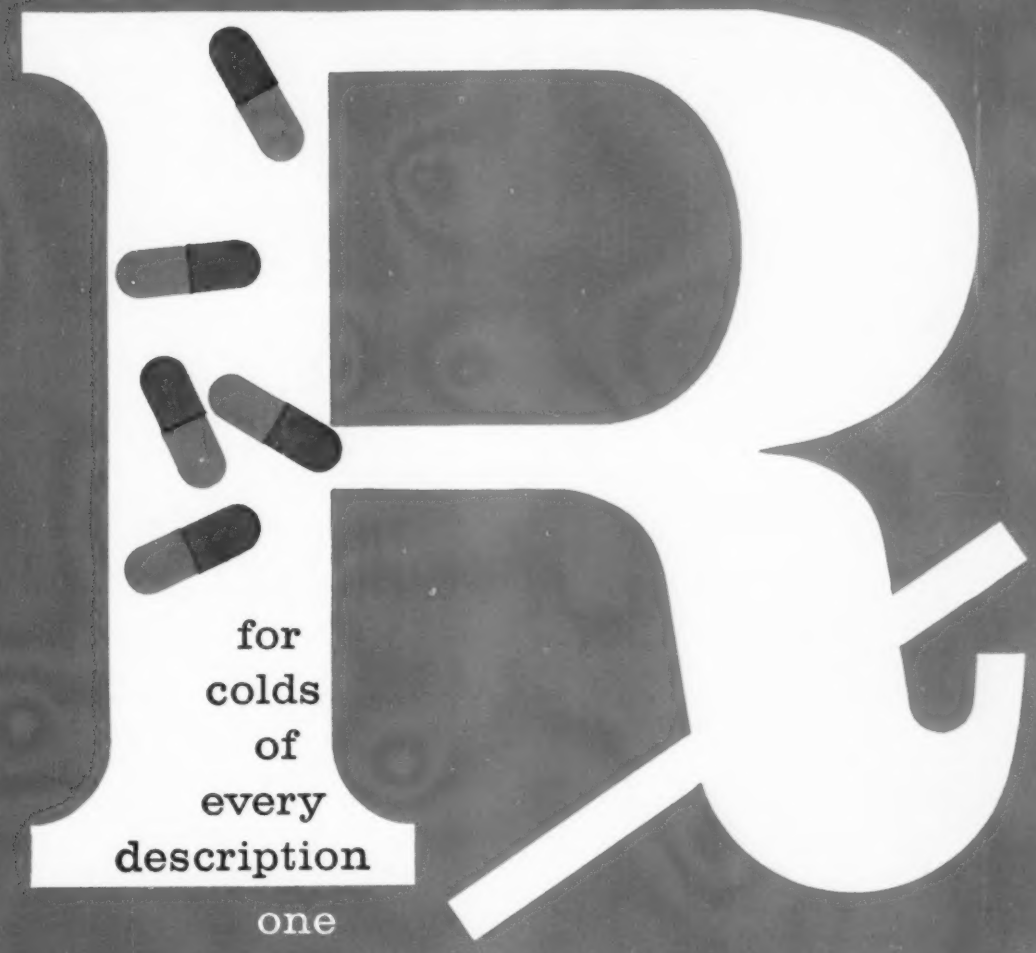

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The JOURNAL

of the Michigan State Medical Society

Issued Monthly Under the Direction of The Council

VOLUME 57 NOVEMBER, 1958 NUMBER 11

General Practice and Psychiatry

By Benjamin Jeffries, M.D.
Detroit, Michigan

INCREASED communications and a closer relationship between general practice and psychiatry are goals for which we have been striving for a long time.

There have been difficulties in the past. You, in general practice, have been limited because of lack of organization and we, in psychiatry, have been limited because of pressing problems in a rapidly developing field. These factors are largely behind us now and we can really look forward to the fulfillment of our wishes and speculations.

Until now, contacts among psychiatrists have been primarily through medical journals and papers presented at medical meetings. These, at best, are second-hand and difficult for us to utilize in our day-to-day practice. We are now ready for the next step, namely, bringing the scientific concepts of psychiatry closer to the general practitioner. As it were—bringing psychiatry out of the clouds and down to earth. In recognition of this, the American Psychiatric Association and the American Academy of General Practice appointed a Liaison Committee in 1956.

The importance of this committee should be emphasized. It gives us the necessary leadership for the planning and action at the local level.

The basic premise of this liaison is the need for closer co-operation between psychiatrist and general practitioner, inasmuch as the generalist sees the sick person first. From this follows an urgent need to increase the general physician's psychiatric orientation and acumen, so that he may differentiate the mental illnesses and the mental aspect of physical illnesses.

The committee issued a report in the past year which summarizes the objectives of psychiatry and general practice and makes broad recommendations for action. The committee suggests the following specific areas for emphasis:

1. The development of more effective tools to handle the mental illnesses in practice.

2. The effective use of drugs—particularly the newer tranquilizing drugs.

3. The differentiation and prompt referral of those patients who need specific or intensive psychiatric care.

Another objective of the committee is to devise educational opportunities in the field of psychiatry for the physician in, or entering, general practice. The report recommends that to reach these objectives, it is necessary that educational programs be organized suitable to the needs of the general physician. It is suggested that a variety of approaches to the problem be made from the medical school through the postgraduate level.

In a recent newsletter of the American Psychiatric Association, the Liaison committee requests that it be informed about any plans for psychiatric programs for general practitioners.

Presented at the annual session of the Michigan State Medical Society, Grand Rapids, September 26, 1957.

They suggest that these plans be submitted for approval for credit to the American Academy of General Practice.

It is the hope of the committee that there will be greater participation by the general practitioner in community mental health planning and activity.

It is the aim of psychiatry to help the general practitioner who is now doing a good job, to do a better job. You are already handling the bulk of mental illness, whether you realize it or not. Inasmuch as we well know that a substantial percentage of your patients show neurotic illness either primarily or secondarily.

This reminds me of my work at Herman Kiefer Hospital where sometimes we wonder if we are operating a psychiatric service in a tuberculosis hospital, or, a tuberculosis division in a psychiatric hospital.

The area of greatest interest to both of us is *"What to do about those who are showing neurotic disturbances either solely or in combination with physical illness?"* The *"What to do"* very often really means, *"Are we doing the right thing?"*

The answers to these questions lie in the understanding of the dynamics of the personalities of our patients through demonstration. This, of course, means teaching and training. I feel that we must move along two basic fronts—one at the university teaching level, and, the other in the doctor's workshop—the hospital.

At the present time, our teaching centers are already developing programs, not only for interns and residents but also for psychiatrists and general practitioners. This development will continue and it needs encouragement from all of us.

The least developed and the most fruitful, I believe, is the teaching program in our hospitals. There is no question in my mind that an effective psychiatric program can be established in any hospital, if members of the staff indicate their desire. The type of program can be tailored to the specific needs of the physicians.

The program that I have in mind for a particular hospital would be a variation of the case study seminar. This technique provides familiar clinical material in a familiar setting, at a pace suitable to the group.

There are two major variations:

1. The presentation of patients who, after diagnostic work-up, present problems either diagnostically or therapeutically.

These problems would be studied and the emotional factors related to the presenting symptoms. The progress of treatment would be periodically reviewed and evaluated.

This program would give a greater variety of problems per unit time, which I have found to be extremely useful to physicians not primarily interested in psychiatry.

2. The second format would be the presentation of a referred patient whose history, diagnostic study and treatment would be studied in detail over a period of months.

This is a more intensive study plan which is used in pyschiatry and probably would not be of interest to the generalist.

Both techniques are patient-illness oriented and are studied from the standpoint of psychopathology and physiology, which is a classical medical teaching technique. Because of our personal involvement in such study seminars, we gain a great deal more understanding and feeling concerning the psycho-dynamics and treatment of mental illness.

An important aspect of the psychiatric programs we have been discussing, is the public health or community health implications.

The general practitioner with a knowledge of psychopathology, psychodynamics, therapy and epidemiology of the mental illnesses is in an excellent position to play a major role in our "Number One Public Health Problem."

Our responsibility in public health is traditional. Although our major role is that of dealing with disease, we all have the goal and objective of increasing the health potentialities and the prevention of illness in our patients and the community.

During the past ten years there has been a tremendous increase in interest and knowledge of mental illness on the part of the public. The public is more accepting of psychiatric concepts thus enhancing our opportunities for work in mental health and mental hygiene.

At times, I have been informed that physicians are disinterested and poorly equipped to work in these fields. I do not accept this. My experience has been that physicians are the best equipped to deal with health problems of the individual

(Continued on Page 1563)

Application of Psychosomatic Concepts by a Liaison Psychiatrist on a Medical Service

By Louis A. Schwartz, M.D.
Detroit, Michigan

THIS PAPER concerns the application of psychosomatic concepts by a liaison psychiatrist working on the medical wards of the University of Michigan Hospital during approximately the past two years. The purpose is to illustrate how patients on the medical service can be approached by the liaison psychiatrist enabling greater opportunity for understanding during the course of routine medical rounds and then interviewed individually for longer periods for subsequent presentation to the senior students, residents, and attending staff members.

First: *How does the liaison psychiatrist help the students, interns and residents working in small medical sections?* This is done by sharing with them the day-to-day observations of individual patients suffering from psychosomatic and other disorders. Thus they can learn in a thoughtful manner the concept of man as an organismal unit with whom the patient-physician relationship can be better appreciated in its dynamic implications. This experience can give the young physician poise and increased self-confidence in understanding the profound need of the psyche to deny the presence of organic illness, especially if it is serious. These denials can take varied forms as in dreams, hysterical symptoms or euphoria, providing a false sense of well-being. The prodromata of serious illness can be demonstrated by [21] "psychological disintegration which can become a sensitive indicator of something having gone wrong systematically." A physician managing a case of severe illness may become anxious himself when the patient does not respond to his resourcefulness, which in turn may be transferred to the patient.

Students,[6,12,14] in general, enter medical schools with idealism and humanitarian ambitions. After intensive laboratory courses followed by two years of concentration on clinical specialties, the intern and resident may have lost their ability to see man as a whole and can conceive of him only in terms of separate parts. The liaison psychiatrist does much for the morale and training of residents regardless of the branch of medicine in which they might be interested, because he helps them to develop skills in dealing with people.

During this phase of training, the resident, intern and student can be reminded of the responsibility for the total welfare of the patient and to learn to utilize the constructive values of community resources, social services and the significant contribution of clinical psychology. They[3,5] can learn about handling concomitant emotional factors such as anxiety, hostility, guilt, fear and varied levels of frustration. These may be exhibited in the form of acute panic reactions with fear of impending death. Most important is the enhanced opportunities for insight into the dynamic implications of family life, because the social and medical history obtained by contact with relatives arouses interest in the operation of the emotional milieu and environmental factors in disease. Students learn to take a psychosomatic history and to become aware of their own subjective personality reactions to the patients. Special[12] emphasis[18] is placed on the investigation of stressful situations in the life history of the patient which may be related to the onset or exacerbation of his illness. One of the observations made by members of our resident staff has been the surprisingly large amount of information which could be elicited by the fewer direct questions asked and by encouraging the spontaneity of the patient's story. Students and residents are encouraged to ask the patient what he, himself, thinks is wrong and to

Presented at the annual meeting of the American Psychiatric Association in Chicago, May 17, 1957.

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ascertain the degree of insight regarding his own condition.

This now brings us, secondly, to the importance of the liaison psychiatrist to the patient himself.

If the patient is referred to the psychiatric consultant for examination after all clinical and laboratory examinations have been exhausted and the patient is ready for discharge (which is often the case), he usually fears that disclosures regarding his emotional condition may prolong his hospital stay. Rapport of the patient, in many instances, is poorly established with the consultant psychiatrist who usually sees the patient but once and this contact may be viewed by the patient as a threatening and unnecessary procedure. The psychotherapeutic relationship should begin immediately at the time of admission, thus helping the patient to see the liaison psychiatrist as an integral part of ward routine. Many patients have voluntarily requested further interviews with the psychiatrist using this procedure. Further, ward morale is improved as the truculent patient can ventilate his resentments. This non-threatening ward atmosphere gives lability to the potential for the anaclitic[6] type of therapy, which avoids the too rapid removal of defense somatization resulting in aggravation of deep psychic mechanisms. The preparation of patients for transfer to surgical wards is facilitated by allaying anxiety. This provides for an easier anesthesia, expedites convalescence and decreases the opportunity for the development of psychic trauma, especially if radical surgery may be required which might disturb the patient's body image or representation of himself. The cost of repeated hospitalization for recurrent or chronic disease can be reduced by the clearer evaluation of the psychic components, such as by the use of illness as a flight from intolerable life situations.

The patient's descriptions of observations of others in fear[4] or rage and his own reactions to such feelings often shed important light as to the genesis of symptoms. It is of significance to determine the patient's "will to get well" and his attitude toward secondary gain or compensation for illness. There should also be an evaluation[7] of reactions to present and past medical treatment, invalidism, and the relationship between current physical symptoms and existing psychological changes. Attention should also be called to patients who have paradoxic reactions[11] to drugs or who are the most recalcitrant to treatment with sabotaging of all therapeutic efforts, since such symptoms may serve a psychological purpose. The liaison psychiatrist[14] often is able in this way to obtain information which the personal physician, by direct questioning, might traumatize the patient thus aggravating symptoms. The presence of anxiety and guilt feelings appearing under a specific stress situation accompanied by sleep disturbance may warn of the setting up of an imminent accident-proneness.

Of interest is the approach in dealing with the family in cases of traumatic injury in order to avoid their increasing the anxiety and apprehension of the patient and thereby fixating symptoms. The rising cost of hospital insurance could be affected by a clear appreciation of the psychological mechanisms.

Finally, regarding the relationship of the psychiatrist to his fellow physicians—the former might be relieved of his aura of isolation (acquired by hours working in locked psychiatric wards) thus enabling him to fraternize with his medical colleagues.

The internists' interest can be aroused by seeing in his own patients the role of emotion in organic disease. With the increasing use of steroid therapy[15] the internist has come to recognize the vicissitudes of hormonal therapy—such as euphoria or affective symptoms with depression, the suicidal potential or, more uniformly, the development of aggression. The recent advances in biochemistry, neuropsychiatry and chemotherapy[11,13] have necessitated that the psychiatrist have some part in bedside care. Working in the medical ward he is able to observe cases otherwise not referred to him and he can see them early so that a non-threatening relationship can evolve. He can clarify some of the psychological hazards and problems of terminal illness, and should determine whether or not recent psychological problems of the patient are the same or different from those chronically present.

The psychiatrist with his insight into the unconscious is alerted to the likelihood of impending death. An increased restlessness and the development of multiple and implacable complaints may be forerunners of imminent demise.[2] He should ascertain how a given personality can be disorganized by toxic or infectious factors, and should be able to evaluate the degree of the patient's health consciousness, his concept of his body image, and the anatomy involved. Such questions

as the relationship of illness to hazards of elective or polysurgery and to repeated hospitalization must be considered. Working with medical colleagues, the internist[16,17] can bring his specialized knowledge of physiological disorders to the psychiatrist who, in turn, can determine the conflict situation and the specific physiologic accompaniments to chronically-present or periodically-returning emotional states.

Working on a medical ward, painstaking empirical[1] observations and factual reporting should complement theorizing. Cases should be selected without bias as to the emphasis on clinical or physiological data. We try to teach that there must not be the attitude that one, and only one, theory can explain the etiology of a psychosomatic disorder. As medical patients are studied and treated it becomes clear that an understanding of the patient's personality depends upon an accurate psychodynamic appraisal of his life situation, his defense mechanisms, conflicts and anxieties, rather than by specific behavoral patterns. Although psychosomatic research[1] has concentrated upon three general areas—(1) the level of the exclusively psychological, (2) the relation of personality factors to measurable physiological processes, and (3) the development of medical illness from deranged physiological functioning—we considered that in these disorders the psychological stress should be regarded as contributing primarily to the development of disturbed organic adaptation, namely, a medical disease.

Let us now consider the basic concepts under which the liaison psychiatrist operates. The fundamental hypothesis is Selye's[18,20] "general adaptation syndrome," which provides for the inter-relation of the physiological and psychological in the human organism. The theory implies that man is in a state of continual disequilbrium, striving to modify and come to terms with stress from without and strain from within. Hence, it is unjustified to consider "psychosomatic diseases" as purely psychogenic—that is to say, primarily determined by direct translation of psychic conflict into the structural sphere, as for example, in hysterical conversion symptoms. The ego, through its defense mechanism and executant functions, makes adaptation possible. If there is a disturbance of the adaptive functions, psychological symptoms result. In this way, repression,[9] denial, sublimation, substitute object choice and rationalization are a few common defensive measures used by the ego to facilitate adaptation to psychic distress. The processes of learning and communicating represent still other categories of the ego which may serve adaptive functions. When faulty adaptive patterns develop, or psychic stress cannot be managed by ordinary methods, secondary or tertiary responses—in terms of symptoms or character defects—appear. If psychosomatic disorders are related to the psychoneuroses, psychoses and other "psychiatric" entities, it becomes necessary to explain why some patients have predominantly visceral symptoms and others mainly psychological symptoms. We have observed that some patients actually alternate between attacks of asthma, bouts of ulcerative colitis, or peptic ulcer and actual psychosis. Such occurrence indicates that a patient may have more than one way of adapting to psychological stress, either by visceral pattern or by repression in the ego to precipitate psychosis. In evaluating a psychosomatic problem, we must understand the constitutional factors, the uniquely individual psychological experiences of the patient and the continued stressful situation. In this way we can evaluate what is happening in a patient by determining the kinds of psychological stress which have awakened adaptive responses in the viscera and the manner in which such visceral reaction-patterns serve as an adaptive function for psychological stress. There is no factual distinction between psychosomatic and non-psychosomatic disorders since the organism is activated more or less completely by any stress. The special contribution of the psychiatrist is to make available for understanding the effect of interpersonal, emotional or symbolic factors on the organism.

Obtaining the reaction patterns,[7] both physiological and psychological in terms of early and present reactions in the patient, his body image, his social environment, economic status, family, work, et cetera, affords an insight permitting understanding of repeated unsolved crisis which again and again initiate somatic complaints. We have observed, especially in patients admitted in acute panic fearing a "heart attack," the effect of pseudohereditary as opposed to truly hereditary factors—that is to say, exposure to or witnessing someone dying suddenly of a cardiac condition, such as a parent, relative or even a friend. Disturbances in secretory and smooth muscle functions whether circulatory or *in viscera* can be timed or related to the appearance of particular

conflicts—for example, exposure to a fatal illness in the family. Such exposure varies as to whether it occurs during the first five years of life, or during the latency period, adolescence, or adult life. A series of cases illustrative of the practical application of the foregoing follows.

An abstract of the record of a white man, single, aged twenty-nine, is reported in view of the acute problems presented by his ulcerative colitis.

Case Reports

Case 1.—The patient's antagonism and lack of cooperation created a ward problem. His condition was such that surgery was recommended with resection of the bowel considered due to the fact that his colon became like a pipestem and bleeding was marked. He responded to cortisone therapy; however, his turbulent aggressive attitudes continued. His diarrhea began July 31, 1954. He dated this specifically to a visit a few days before with a physician who aroused his rage by beginning the examination with a question: "Tony, how come as goodlooking a boy as you is not married?"

Prior to that he had an irritable bowel and had noticed mucus in his stools. He said the doctor upset him because he had been thinking about marriage and realized he was not prepared for it. He admitted that he was concerned about his masturbation which had existed for eight years and about which he felt a great deal of guilt. He consulted his priest who advised him to develop new habits. He developed cramping intermittent lower abdominal pain and had six to ten watery bowel movements per diem and four to six per night. Tenesmus continued and he became very weak with his weight dropping from 180 to 140 pounds in four months' time. He also complained of dizziness and pain on defecation. Belladonna seemed to increase his diarrhea. Kaopectate gave him little relief. He had a mild elevation of temperature. He was given sulfa drugs and vitamins. He was also put on a starvation diet by his former physician.

Family history revealed that his father, aged fifty-eight, had always been nervous and suffered from hypertension and had had a severe pruritus ani for over fifteen years. The patient said he used to hear his father scratching every night. His mother, aged forty-eight, is described as being over-protective, apprehensive and very solicitous of the patient. He is the eldest of four brothers and one sister. One brother, aged twenty-seven, was discharged from the Army with eczema after one-and-a-half years service. Another brother, aged twenty-four, weighs 230 pounds.

Past medical history revealed that he had malaria and dengue fever while stationed in New Guinea with the Signal Corps of the Army. He spent eight months in New Guinea and one month in Okinawa. While on Luzon he was persuaded by a "buddy" to visit a prostitute. He did not want to go but said he was "kidded into it." He was very frightened by this experience and went to the dispensary to determine whether or not he had acquired gonorrhea. He had no infection. Two months later upon persuasion by another friend he visited a prostitute in Okinawa. He again became frightened and went to the dispensary to be examined to see if he had a venereal disease. In spite of reassurance he continued to be frightened and two months later noticed mucus in his stools. This substance, he said, was clear and like jelly; but he did not go to see a doctor. He thought he had a "strain." When he was discharged from the Army he was still preoccupied with the possibility of having gonorrhea. He consulted a reputable urologist and had a cystoscopic and complete examination and was informed he had no organic disease. He said he was disgusted with himself and insisted there was a venereal disease. He consulted another physician who gave him prostatic massage over a period of one year. He was not told that he had a venereal disease but learned that he did have an enlarged prostate. He felt the doctor "implied" he had a venereal disease because he had given him penicillin. He checked with another physician and was told he had no venereal disease and this doctor would not take money for his visit. He felt discouraged and disgusted and finally saw another physician in July, 1954, which was the last medical man consulted prior to his admission to the University Hospital in Ann Arbor.

The following is a summary of the psychiatric findings on admission: He said he could not eat regularly due to his apprehension. He had no dates and although very attractive was disinterested in girls. He admitted having been teased and "picked on" all of his life due to his passive naive attitudes. He doubted his virility—"I felt I was anemic and weak." He said he had been under constant tension for the past twenty-five months, was unable to work continuously, and considered himself a failure. In view of his hostility and because of the bleeding, it was decided to have a sodium amytal interview. He would have been a poor surgical risk and as he was not co-operative with the doctors, further exploration was deemed advisable to evaluate his conflicts.

Under partial sodium amytal narcosis he revealed very dramatically the reason for his basic rage. He brought out the fact that while in New Guinea he had been told by some of the men in his company that since he was such a "loyal citizen" he would be given a machine "to break the Japanese code." This item supposedly had been seized from the Japanese and was called a "scrotogram" operated like a typewriter. He had even asked the company commander when the "scrotogram" would arrive. He was the butt of jokes and ridicule for several days. He was made aware of the situation by one of his friends. He became enraged but was powerless and thought of taking revenge. A few days later this matter was again discussed with him and he seemed to be less resentful. At the time of colectomy his emotional status had improved and he made a good recovery following the operation and was discharged from the hospital and follow-up psychiatric consultation was advised. The psychotherapy was continued by a resident physician under supervision.

It is doubtful that without the services of a liaison psychiatrist available in routine medical ward rounds that this case ever would have been considered for consultation. It had not been deemed advisable to stir this patient up further since the colectomy had already been scheduled, but psychotherapy was necessary to prevent possible continued ulceration at the site of colectomy.

The case of a fourteen-year-old boy with convulsive seizures and urticaria[5] demonstrates the need for continued observation to treat the psychological basis for symptoms. This patient was referred for psychiatric evaluation with the history and clinical findings as follows:

Case 2.—This fourteen-year-old obese, somewhat regressed, boy was brought to the Clinic by his parents because of "spells" of four-years' duration and chronic urticaria present since January, 1955. H. is an only child. His spells started with a "funny feeling" like nausea in his stomach. This feeling spread to the right shoulder and involved the entire right arm. Then his right arm would start to jerk grossly. He lost his vision, usually entirely, but sometimes (from his description) it sounded as though he had a half or three-quarter field defect. During all of this time he was conscious and could hear in spite of his inability to see. He never lost consciousness, fell down, or injured himself during these episodes. Almost all of them occurred while in bed at which time, when he felt one coming on, he would call his parents and they would come to him and comfort him. Following one of these episodes he would feel sleepy and frequently did sleep. He had no headache. On one occasion, recently, one side of his tongue was bitten during one of these. His parents had said that his eyes roll up at times during the episodes. His father noticed that during some spells he would smack his lips and makes a chewing movement with his mouth.

The first of these episodes came in 1951 when H. was ten and occurred when he was in bed with his parents. He explained that he had frequently gone into his parents' bed in the mornings because his father wanted him to. His father might say of an evening, "Why don't you come into bed with me tomorrow morning and we'll fool around." It was always to join the father that he enters the bed. Their fooling around consisted of wrestling in which they try to pin each other down and lie on top of each other. Although this occured less frequently than in former years, it still occasionally did occur. H. dreamed repeatedly as a child of an elephant rolling over on him. H's. parents were very reluctant to have him be away from them. They would take him with them almost every place that they went and told him that it would be dangerous for him to stay home alone because a burglar might come in and he would be defenseless. Until the age of about ten or twelve, H's. father spanked him severely with hand or a board on the seat whenever H. was the least bit self-assertive or when either parent caught him masturbating. H. stated that the Lord was helping him stop masturbating through his prayers.

In January, 1955, H. went to a dentist for braces. The braces were applied on three different visits and following each visit urticaria appeared on the abdomen. Following the last visit the urticaria spread to the remainder of the body and has remained chronic since that time. There is considerable pruritus associated with this. His I.Q. was 100. His skull x-ray was normal and a complete physical and laboratory examination was negative. E.E.G. revealed a dysrhythmia grade 2 which was generalized but maximal in the right hemisphere. Dermatologic consultation suggested that the urticaria might be psychogenic in origin, some recommendations about a diet were made and the use of chlor-trimeton 8 mg. b.i.d. was advised.

The neurological consultation revealed a normal neurologic examination except for a questionable plantar response on the right. It was the neurologist's impression that H's. spells represented a convulsive disorder with some components suggestive of a temporal lobe focus and focal grand mal seizures. He found no evidence of any space-occupying intracranial lesions. H. was placed on phenurone ½ grams two to four times daily. We felt that there were prominent emotional factors, with which he certainly needed help, but that in following him it would be necessary to remain mindful of the possibility of some kind of structural focal temporal lobe lesion.

On arrival in our hospital many of the laboratory studies were repeated without significant findings. Skin sensitization tests were done by an allergist and it was found that although allergic to wheat, potato and broccoli, it was felt that the reactions were not marked enough to explain the giant urticaria or angioedema from which he suffered. Following three months of frequent psychiatric interviews, it was apparent that his guilt reaction about masturbation resulted in a convulsion early in the morning or in getting the hives "if something good happened to me." Whenever the received a present or was pleased by attention from relatives or friends he would either have a convulsion early the next morning or have hives. He felt he did not merit the kindness of his parents and felt guilty about the cost involved in his medical treatment. He felt he should be punished. When this information was brought to the attention of his parents, the mother verified the patient's observation by stating that she had kept a careful record of the daily situation correlated with the time of appearance of the urticaria or convulsions. He exhibited no symptoms after three months of psychiatric treatment. It is obvious this boy was best treated psychiatrically on a medical ward.

We have noted that patients with functional disorders are rehospitalized in some cases repeatedly with the same complaint until a psychological evaluation brings out the true facts. To illustrate, we cite a patient who was seen during the fall of 1955 on the medical service of the University

Hospital. This patient had had forty-two admissions during the previous five years in many hospitals in Southern Michigan with six admissions at the University Hospital during this time. Each time he was admitted as a potential "acute abdomen" and after repeated routine and special laboratory examinations were made, no definite organic disease was definitely established. The patient underwent (despite these findings) a cholecystectomy, appendectomy and an exploratory laparotomy—all with essentially negative findings.

Detailed psychiatric study at the time of his last hospitalization, revealed the functional basis of his difficulty. His hospitalization during the five years was estimated to cost $85,000 which was paid for by two insurance companies and finally by the State. The liaison psychiatrist alerted to the functional basis of repeated hospitalization can do much to lower the cost of rising hospitalization insurance.

Another patient underwent polysurgery, having thirteen major operations, yet the basis for her difficulty was that of emotional conflict. She had been a favorite daughter in a well-to-do Catholic family. She had been deeply attached to her father who had indulged her. She married a Protestant against her parents' wishes. Her husband was a physician. He agreed that any children they should have would be brought up in the Catholic faith. They had three children, all of whom were refused permission to attend parochial schools. He berated his wife for attending Mass on Sunday mornings. He was impatient when she complained of physical discomfort and taunted her with "what shall we take out now"? A review of the pathology reports of tissue from her thyroid, gall bladder and appendix revealed a minimal pathology. In one of the earlier abdominal operations she had been sterilized at the request of her husband without her permission or knowledge. Her repeated illnesses were punitive devises to hold her husband and to punish him. Psychotherapy following long hospitalization and referral of her husband to a psychiatrist brought about a more satisfactory adjustment and no further evidences or recurrences of illness.

Summary

To summarize, the liaison psychiatrist on a medical service can participate in several uniquely significant areas. First, the residents, interns and students can learn from him to approach the patient as a whole, not only from the medical but from the emotional, economic and social points of view and learn to treat him with all the ancillary services.

Second, the internist can be made aware of the function of psychiatric problems in his patient and how their solution facilitates the treatment of the patient. He can also learn the importance of psychiatric evaluation of patients being treated with the latest hormonal and chemical compounds which, often, induce disturbing results.

Third, the hospital benefits from the liaison psychiatrist in that he prevents unnecessary and expensive procedures being carried out on individuals where not entirely indicated.

Finally, the patient is enabled to devote all his energies to recovering from his disease and not have them dissipated by the fear and anxiety of hospital procedures. Most vital from the psychiatric point of view, he learns that he need not express his psychic conflicts through his soma.

The psychiatrist himself is enabled to have access to patients in a non-threatening way as a part of the total medical care and at the same time to discard the isolation that disturbs his communication with fellow physicians. By tactful and thoughtful consideration he can do much in a general hospital to overcome many of the traditional resistances to the application of psychological insights in the cure of disease.

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Occupational Therapy Procedures in Rehabilitation Medicine as Applied to Hemiplegia and Arthritis

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REHABILITATION medicine is concerned with the restoration of maximal self sufficiency and usefulness of each individual—to care for his daily needs, participate in family and community affairs, and support himself through a vocation. The degree of rehabilitation which each individual achieves depends upon the abilities—physical, mental and emotional—which he possesses. Some patients are less disabled than others and their recovery occurs more rapidly and to a greater extent. Some can achieve full independence in all spheres of activity. Others must be satisfied to be able to care for themselves. Still others can become only partially independent. For each patient an individual goal must be set physically, mentally, socially, and vocationally.

Rehabilitation of the physically-handicapped individual is a complex problem and requires a team of professional people to work with the patient and his family to achieve rehabilitation. The planned rehabilitation program assists in making maximal use of the handicapped patient's time as well as his abilities. He is expected to do for himself all that he can. As soon as the patient has regained self-sufficiency in any activity, he begins to use it again daily on the ward and in the clinic. This results in an activity program throughout the day contributing to improvement in strength, co-ordination and endurance.

The occupational therapist as a member of the rehabilitation team assists in the evaluation and treatment program. The function of an occupational therapy program for arthritic and hemiplegic patients is basically the same. The procedures used are dependent upon the individual's needs in testing abilities and providing definite and specific means of controlling and grading physical activity, such as, increasing range of motion, muscle strength and co-ordination. The patient often needs motivation and assistance in hospital adjustment as well as adjustment to a residual disability. The activities program will provide for development in self care activities, avocational and hobby interests as well as provide a means of pre-vocational exploration and establishment of work tolerance. The occupational therapist must encourage socialization and recognize the need for referral to other agencies within the hospital or community.

The specific needs of the arthritic and hemiplegic patient will dictate the emphasis of the therapeutic relationship which must be established between the occupational therapist and patient. The emotional problems of the physically-disabled individual must be recognized and approached positively. Emphasis and attention must be placed upon the patient's capabilities and not on his inabilities. The arthritic patient must be helped to overcome the fear of pain and movement. Assistance is given the patient in planning less strenuous and tiring methods of performing familiar tasks to which he is to return after discharge. Patterns of movement and positioning must be established to prevent formation of contractures. Stimulating creative activities in occupational therapy can capture the interest of the patient and motivate him to actively participate and serve as a deterent to fear of pain.

The hemiplegic patient may be sensitive and irritable perhaps due to the loss of use of extremities or possibly aphasia and slurring speech. He may show rigidity of personality, an inability to function properly within a changed time schedule or situation. Rigidities are probably a result of withdrawal on the part of the patient in the face of overwhelming psychological trauma.[1] The Occupational Therapist must move slowly toward the patient at the outset and be gentle but firm in initiating the program. The program should be rigidly controlled relative to time, space

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and personnel, and activities varied within this frame work. All activities should be aimed at ego building. The patient must be made to feel increasingly secure if he is to rid himself of his natural tendency to withdraw.

Another psychological phenomena in the hemiplegic individual is propositionality. Many activities are done as habits operating on a level slightly under consciousness. When one becomes conscious of an activity, performance becomes less efficient and habit like. During concentrated interest on an activity or project often a spastic hand is quite functional. Propositionality is basically a problem of consciousness of movement. Patients move only to the point of efficiency dictated by consciousness. The patient must be taught to perform consciously to the highest point of efficiency and then turn the activities into habits which operate slightly under the level of consciousness. The most effective mechanism for this transition is functional activity.

Deterioration in the behavioral or evaluative standards is characteristic of many geriatric patients following a cerebral vascular accident. The psychological phenomena has been called amorality.[2] The level of aspiration and goals becomes lowered and subsequent inactivity and psychological trauma are evidenced by the patient saying: "It doesn't matter." "It's good enough," "I don't care," or "It's hard to do it the way you want it done." The patient after a C.V.A. is satisfied with much lower standards of performance than he was prior to the accident. Pride and perseverance toward realistic goals seem to become more difficult and poor performance becomes acceptable. Occupational therapy instituted soon after the C.V.A. prevents inactivity which increases amorality. Self-care activities which the patient can do should be done daily. He should be asked what he thinks of his performance and that of others and should be helped to evaluate his acts and raise his standards of evaluation. Amorality is not a result of inability to perform. It takes place in all areas whether disabled or not. It is in part the loss of cultural bounds in the form of goals or levels of aspiration as a result of being faced with great psychological trauma. Faced with great potential disability in the hemiplegia, the daily bounds and goals which the patient has learned become less significant. Another explanation is that the destruction of the neural tracts through the C.V.A. make the establishment of new tracts necessary if the former evaluation level is to be reachieved. The phenomena of a morality might have any one of three etiological factors: (1) disturbed neural tracts, (2) sudden inactivity and (3) reaction to overwhelming psychological trauma.

In the C.V.A. patient we often find "attentional dissipation." He has difficulty in paying attention to the stimulus at hand. It is difficult to teach such a patient because he seems unable to concentrate when instructions are being given and seems unable to persist in practicing to acquire skills as a result of instruction. The C.V.A. patient has difficulty in concentrating on one stimulus because it is difficult to ignore other stimuli. He is being bombarded by and reacting to many other stimuli about him. He must be taught to be selective in his reactions to stimuli in the environment. The occupational therapist helps the patient learn to pay attention to the task at hand and not to pay attention to other stimuli. Environment should have a low stimulus level because of the low stimulus threshold of the hemiplegia.

The occupational therapist assists in the evaluation of the disability by: (1) measuring joint limitations, (2) testing performance in activities of daily living, and (3) observation of patient behavioral pattern or attitudes. In the total treatment program the occupational therapist aids in the prevention and treatment of deformities by: (1) encouraging maintenance of good body positioning at all times, which may include the use of slings, and other supports, (2) providing activities to encourage full range of joint motion which may be assisted through sling supports, and (3) stretching joints through planned activities. The occupational therapist teaches the patient to perform the activities of daily living which include the fundamental motions of changing position, reaching, grasping, standing and walking. When these motions are carried out into real life situations and combined into actually "putting on shoes" we speak of activities of daily living. The therapist may need to develop assistive devices, such as, reaching tongs, long handled comb and shoe horn, knife-fork, etc., or to inform the patient where these items can be procured to help the patient meet his daily needs in spite of his disability.

Suggestions are made to the patient and his family for changes needed in the home situation, such

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Specificity and Sensitivity of the Reiter Protein Complement Fixation Test for Syphilis

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THE IDEAL serologic test for syphilis would be: (1) sensitive, (2) specific, (3) easy to perform, (4) low in antigen cost, (5) have a readily available supply of antigen, and (6) be reproducible. This study was undertaken to determine the first and second points in regard to the Reiter Protein Complement Fixation test for syphilis, henceforth referred to as the RPCF. The situation in regard to points 3, 4, and 5 is known.

The test, being a complement fixation test is more time-consuming than the flocculation and agglutination tests, requiring about the same amount of time and effort as a Wassermann (Kolmer). The antigen is expected to be extremely low in cost, a vital point in any procedure to be employed on a large scale, eventually costing about one cent per test. The supply of antigen is as yet uncertain and erratic, but American and foreign companies are now going into production and probably there soon will be no problem in this regard. Reproducibility, point 6, will not be touched upon in this study.

The Reiter's strain of Treponema pallidum is a non-pathogenic treponeme that can be cultured in large quantities. It was first studied as a source of antigen for the serodiagnosis of syphilis by Gaehtgens.[3-6] At first, a lipid extract of the organism was employed for serologic testing. This produced false-positive reactions in much the same manner as do the tissue lipid antigens employed in the reagin tests (i.e., Kolmer, Kahn, Venereal Disease Research Laboratory Test, et cetera).[1,7] D'Allesandro, in 1949, isolated a thermolabile soluble protein antigen from the organism.[2] This protein does not react with reagin in syphilitic serum, but with a true heat-stable anti-syphilitic antibody. The test employed is a complement fixation test.

TABLE I. SENSITIVITY OF RPCF COMPARED WITH KOLMER TEST FOR SYPHILIS
35 Cases

Diagnosis	Cases	RPCF		Kolmer	
		Positive	Doubtful or Negative	Positive	Doubtful or Negative
Asymptomatic neurosyphilis with positive spinal fluid Kahn or Kolmer	16	16	0	16	0
Tabes dorsalis	3	1	2	2	1
Tabo-paresis	1	1	0	1	0
Late congenital syphilis with stigmata	12	11	1	12	0
Secondary syphilis Darkfield positive	1	1	0	1	0

The sensitivity of a test for syphilis is relatively easy to determine. Thirty-five cases were selected that could be diagnosed as syphilis with relative certainty without resort to a blood (reagin) test at all. The diagnoses were made on the basis of physical or spinal fluid laboratory findings. These cases, all adequately treated, were in five categories shown in Table I. The results of the RPCF and Kolmer tests are shown.

The anergy in a high percentage of cases of tabes dorsalis is in accordance with previous experience with other reagin and treponemal tests. In this small series, the Kolmer appeared to be slightly more sensitive than the RPCF. However, excluding the case of tabes, both tests have a sensitivity of over 97 per cent.

In determining the specificity of a treponemal test for syphilis, two laboratory problems arise:

Biological false positivity.—The clinician is often faced with the situation where a patient has a positive serological (reagin) test for syphilis, but a careful history, physical examination, x-ray

From the Social Hygiene Division, Detroit Department of Health, Joseph G. Molner, M.D., Commissioner.

TABLE II. BLOOD SURVEY IN UPPER-CLASS AREA
536 Subjects

	Kahn	Kolmer	RPCF
532 specimens	0	0	0
3 specimens	0	4+	0
1 specimen	0	0	Anticomplementary

of the chest, and spinal reveal no evidence of syphilis. Until the advent of the treponemal tests for syphilis (TPI—Treponema pallidum immobilization, TPCF—Treponema pallidum complement fixation, RPCF, et cetera) there was no satisfactory method of making the differential diagnosis between latent syphilis and a biological false-positive serology. Careful studies have indicated that these tests are highly specific for syphilis and do not give a significant number of false-positive reactions.

Spontaneous or post-treatment reversal of reagin tests to negativity.—It has been well established that a high percentage (about 33 per cent) of syphilitic patients will eventually become seronegative without treatment when tested with the reagin tests. A higher percentage of patients afflicted with syphilis will become seronegative at varying times after treatment. However, the treponemal tests, testing for a true heat-stable specific antisyphilitic antibody, remain positive for life in the vast majority of cases, regardless of the results of the reagin tests. The significant exceptions are persons having tabes dorsalis and those treated adequately in the primary stage or early in secondary stage.

This poses a serious problem in the evaluation of a treponemal test for its specificity, that is, its freedom from giving false-positive results. For example, if 100 persons with no history or physical signs of syphilis were tested with both the Kahn and RPCF tests and 100 were Kahn-negative but four were RPCF-positive, would this mean that the RPCF resulted in 4 per cent false positivity? Not necessarily. These four positive results could be due to previous syphilis in which the serology (reagin tests) spontaneously reverted to negative but continued to show a positive treponemal test. This problem was approached in two ways:

1. Split specimens of prenatal blood tests were obtained from 536 private patients from an upper-class area where the incidence of syphilis would be expected to be very low.* A mass blood survey of such an area would yield less than 1 per cent positivity on serological testing. A Kahn, Kolmer, and RPCF were done on each specimen. The results are shown in Table II.

As anticipated, the positivity rate with the reagin tests was less than 1 per cent (in this case, 0.6 per cent) with the Kolmer and zero with the Kahn. All three patients with positive Kolmers had negative RPCF tests. The presumption is that these three represent biological false-positive reactions. In view of the known occurrence of false-positive reactions in pregnant women, a 0.6 per cent false-positivity rate with the reagin tests is not surprising.

Even if the single specimen that showed an anticomplementary reaction to the RPCF was considered to represent a false-positive reaction to the RPCF, this would amount to a percentage of false-positivity in this study of 0.2 per cent to the RPCF.

2. It has been established that the newborn infants of adequately treated mothers who have a persistently positive serology (reagin) will often show a positive reagin test for the first three months of life. This is due to the passive transfer of reagin to the fetus from the maternal circulation. The treponemal antibodies can also be passively transferred.

In this series, the infants of seventeen women patients of the Social Hygiene Clinic, treated for syphilis before the pregnancy in question, and not treated during that pregnancy, were blood-tested at ages three weeks and four months. None of the infants showed any physical signs of syphilis. All showed positive Kahn tests (varying dilutions) at age three weeks. All showed negative RPCF tests at three weeks. All were Kahn-negative at four months.

Comment and Summary

1. The RPCF has no advantage over the reagin tests in regards to sensitivity. The reagin tests are satisfactory in that regard.

2. The RPCF, when studied for specificity (i. e., freedom from false-positive reactions) from two approaches, resulted in false-positivity in 0.2 per cent and 0.00 per cent of cases.

3. The RPCF represents an extremely valuable and practical test that may eventually become routine.

(References on Page 1592)

*For these sera we are indebted to Dr. L. W. Gardner, Mt. Carmel Mercy Hospital, Detroit.

Juvenile Delinquency

By Stuart M. Finch, M.D.
Ann Arbor, Michigan

JUVENILE DELINQUENCY is a broad term which has more of a legal connotation than a medical one. It indicates a pattern of behavior in a child which is contrary to the rules and regulations of his society. Obviously there are many things that a child can do of which his society would not approve. To name a few, he may lie, steal, cheat, fight, truant, run away or indulge in various types of sexual activity. We, as adults, lay down certain moral standards which we expect children to follow and whenever a youngster steps outside these boundaries we may label him delinquent. There are not only many unsocial ways that a child can misbehave, but there are numerous reasons he may do so. For example, a fourteen-year-old girl who is sexually promiscuous may be so because her mother is promiscuous. She may have been introduced to heterosexual activity at an early age by a relative or other adult. Still another possibility is that she resents her mother's chronic puritanical attitude and has chosen this sexual acting-out as a method of retaliation against her mother. Numerous other reasons may lie behind such a behavior pattern. In general, then, a delinquent is a youngster who behaves in a manner of which his society does not approve. This behavior may occur in school, at home or in the community.

It is important that the average physician have a realistic perspective in regard to the scope of the problem of delinquency. A great number of articles on this subject intended for both professional and lay consumption are published each year. Many of them are dramatic in nature and imply wide, sweeping assumptions which are not based upon reality. Actually, there are about 350,000 children under the age of eighteen who are brought annually to the juvenile courts of the United States. The number grows larger each year, but then so too does the population and the methods of reporting. It has been estimated that there will be approximately 40 per cent more children between the ages of ten and seventeen years in 1960 than there were in 1952. This obviously means that there will be more delinquent children even if the over-all percentage in the population remains the same. Certain other statistical data are useful to gain an impression of this problem of delinquency. For instance, the biggest number of youngsters who appear for the first time in juvenile courts are those between the ages of eleven and thirteen years.[1] It has been shown that nine-tenths of these youngsters have had, when their history is reviewed, serious difficulties in social adjustment prior to the age of eleven, but only at that time or within the next two years have they come to the attention of the court. Approximately 80 per cent of the youngsters referred to such courts are boys and the remaining 20 per cent are girls. If one considers both the first time offenders and the repeat offenders, some 84 per cent are between the ages of thirteen and sixteen.

Something should be said concerning the situation in Michigan. It was in 1945 that the first reasonably accurate reporting of juvenile delinquency was gathered from the entire state.[2] During that year 6,634 youngsters were referred to the juvenile courts as new delinquency cases. In 1955, ten years later, the new cases amounted to 10,736. This sounds as if there had been a tremendous increase in delinquency during these years. Actually, some of the increase can be accounted for in terms of improved reporting systems. Next, there were far more new traffic cases reported, presumably because more youngsters began to drive and to become involved in traffic mishaps or misdemeanors. In addition to this, there is the factor of the increased population of the state. Therefore, in the light of these facts, the actual increase in juvenile delinquency is far from the tremendous jump it originally appears to be. It has often been said that approximately two or three youngsters out of every hundred will eventually become seriously delinquent. This figure probably still stands. The reporting of juvenile

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delinquency cases is still not thoroughly accurate. Many youngsters are brought to the attention of the juvenile court, but measures are taken or recommended which allow the case not to become an "official" one. Different counties deal with traffic offenses by juveniles in different ways. In some counties, juvenile traffic offenders are turned over to juvenile juries composed of their contemporaries. In other counties these matters are handled entirely by judges. In one county a young traffic offender might be listed officially as a juvenile delinquent, while in another, certain alternate methods might be tried before he is considered to be an "official" case. Thus it can be said that our present reporting and statistical data concerning juvenile delinquents leave much to be desired. Nevertheless, it remains that many youngsters are chronic irritants in our society and whether they have become "official juvenile delinquents" or not, they are still disturbed children who are behaving in a manner that is neither acceptable nor healthy.

There are certain broad sociological factors as well as intrafamily factors which have long been known to influence the incidence of delinquency. Some of these can be mentioned here. For instance, there are approximately six million children in the United States living in homes which have been broken by death, divorce or desertion. The effect of any of these events upon the child's developing personality obviously varies according to the age at which the event takes place, and the manner in which it is handled subsequently by the adults who are important to the youngster. Nevertheless, it remains that the child with only one parent or with separated parents cannot have the optimum, well balanced situation which exists in the normal mature family. The difficulty which may ensue in such a child's life is not necessarily one of delinquency nor even of other serious emotional problems, but it remains that his situation is not optimum. For instance, divorce more often than not takes place amid considerable emotional strife between the parents and this tension is apt to continue. Subsequently, its effect upon the children is one of producing insecurity, and delinquency may possibly be a result. It is known, for instance, that approximately half of all those children who come to the attention of juvenile courts in the United States, live in broken homes in which the parents have separated or divorced. This is obviously a far higher percentage than is true of the total population and indicates the potential damage that may occur to a child under such circumstances.

Another sociological factor which has long been known to contribute to delinquency, is that of overcrowded slum areas. In Philadelphia, for instance, one-twelfth of the city area contains approximately one-fourth of the total population and contributes approximately one-half of the delinquency referrals made to the juvenile authorities.[3] It has been repeatedly shown that slum clearance, if properly carried out, can produce a diminution in the juvenile delinquency rate in such areas. It is remarkable how few cities have taken effective action in this regard. Slum clearance is not an over-all answer to delinquency, but certain "blighted" areas can, if properly rebuilt, materially contribute to the lessening of delinquency rates.

Racial minorities produce more than their statistical share of juvenile delinquents. There exists in our society great prejudice, hate and other negative feelings toward certain racial minorities. These individuals grow up resenting their own society and acting-out against it in greater measure than those who belong to the majority. The widespread discrimination against these people can produce only counter-resentment in their families and their children and eventually contribute to the acting-out against society.

A large, but not always clearly recognized, contribution to delinquency is war. Our present crop of teenagers spent their formative years during the second World War and were further influenced by the Korean conflict. For the last fifteen or tweny years our society, and indeed most of the civilized world, has lived with the looming possibility of a recurrence of war. The advent of atomic power has made this threat a great deal more ominous than ever before in history. The possibility of military service for the men, and the disruption of the lives of civilian families is ever-present. Many fathers of today's teenagers were in service during the formative years of their children's lives. Families did not lead normal, secure and happy existences in those years. Many adults continue to talk of the uncertainty of our world today and the possibility of renewed conflicts. Adolescent children themselves are eager listeners to such conversations and may, especially if they are unstable, adopt the attitude that catastrophe lies in the near future and thus present behavior is to be excused.

Still another sociologic factor which is not al-

ways recognized is the prevalence of working mothers. In 1952, for instance, approximately one out of every four mothers whose children were under the age of eighteen was gainfully employed in some manner or other. The rising cost of living has made it necessary for many mothers to work and thus to play a less active role in the home. The ultimate result is a disorganized family unit with little cohesiveness. (In many instances they relegate part of their maternal duties to underpaid and untrained help.) In still other instances, the mothers work because they feel the maternal role is not particularly important. They tend to support their rationalization in this direction by citing the many other mothers of their acquantance who work. The mother becomes harried, rushed and anxious and she cannot conceivably give to her children all that she would ordinarily be able to give. This is obviously most important in the child's preschool years.

A final factor worth mentioning is the increased migration of families from one part of the United States to another. The population of California, for instance, particularly in the Los Angeles area, is growing by thousands of people every week. Many southerners from rural areas are moving north into large urban centers. The emotional turbulence and upheaval produced by such migrations have a tremendous effect upon the children. In addition, many such families are of a marginal income level and move into slum areas where morals and behavior patterns are substandard. The parents become primarily concerned about livelihood and pay less attention to the children. The youngsters are affected both by parental insecurity and by the moral degeneracy of the new neighborhood. All of these factors are important when one considers the over-all problem of delinquency. It becomes obvious that there is no single, simple answer to antisocial behavior in children.

Having established delinquency as a broad and complex problem, the question arises as to what role the physician should play in regard to it. First, one must decide whether the physician is merely a medical person or whether he is also an active and contributing member of his community. Because he is looked up to by most people and his advice is heeded, he is in a position to be widely influential, and most physicians fulfill the responsibility this position brings them. The mature physician is interested in juvenile delinquency because it is a problem of the community and he is willing to offer not only his medical services, but also to offer himself as a person in dealing with this major problem. (Our orientation here is primarily that of a physician acting in his medical capacity.) Unfortunately, the medical profession does not measure up particularly well in this regard. There is a common tendency in medicine to be primarily concerned with the patient who has organic illness. This attitude predominates in many medical schools and thus in the minds of many physicians. I would like for a moment to consider this problem from the standpoint of the individual physician who is called upon to evaluate a delinquent youngster. To the average doctor this may or may not be a common situation, but it is certainly one which the medical profession as a whole cannot ignore or refer to someone else. The mature physician of today is not only interested in people and all ills that man is heir to, but also he avails himself of at least the fundamentals of all areas of medicine. The delinquent may be sick just as much as the paretic or the anemic patient. If we as physicians reserve to ourselves the right to treat the sick, we must not exclude certain people because their illness disturbs us, makes us angry or because it reveals no demonstrable organic pathology.

As mentioned previously, the greatest percentage of "first time delinquent" youngsters is in that group between eleven and thirteen years of age and 90 per cent of those children reveal a seriously disturbed adjustment prior to eleven years of age. This means that much prevention has yet to be accomplished and it is in this area that medicine should play its greatest role. The tendency of many physicians is to assume "the child will grow out of this mischievousness." They fail to recognize the difference between ordinary childish exuberance and budding delinquency. The average delinquent does not come to the attention of the courts until he is at least eleven years old—mainly because he is not big enough nor experienced enough to get into serious trouble prior to this. The five-year-old, for instance, who has an embryonic delinquent pattern has a narrow scope of activity which does not reach the law enforcement agencies. It is, however, the type of pattern which should be recognized by the family physician. Preventive measures taken at this time can be remarkably rewarding in terms of the eventual cost to a family, a patient and to society in gen-

eral. Small children are restrained physically by their parents whereas their older counterparts cannot be so controlled. One mother recently said, "he has always been a behavior problem, but until he got to be about eleven I could handle him and force him to behave." What she meant really was that she could limit his sphere of activity so that he did not become a community problem. She certainly was not curing his delinquency.

The physician whose advice is sought concerning a delinquent youngster should be prepared to determine the following things. First, what the characteristic behavior pattern of the child is and how long it has been present. Second, from the over-all history of the child's development, why this pattern is present. Third, what can or should be done to eliminate the difficulty. These steps are not basically different from those followed in any medical case, but they do involve less tangible factors.

At this point I should like to make what may be an oversimplification of the problem and divide delinquency into an "inner" type and an "outer" type. The handling of a specific case depends in great measure upon this division and although mixtures often occur, it is important to have in mind the basic differences between the types. In the "inner" type of delinquency the primary problem is the psychopathology within the youngster himself. He is emotionally sick in that he has residual immaturities or conflicts within himself and his behavior is determined by these inner problems. To take a simple example, let us postulate a child of twelve who is inwardly passive. He has been coddled and babied by his overprotecting mother throughout his early years. However, when he was ten she sensed her mistake and began ridiculing his passive, babyish demands. The youngster was already aware of his immaturity and resented it, but his mother's criticism was the final blow and he buried the passivity under a layer of pseudoaggressiveness. Now, whenever his inner passivity surges up, he lashes out destructively and senselessly. To punish this child or to smother him with affection would not eradicate the problem since it is basically unconscious and persists in spite of the environment.

The "outer" type of delinquency is a result of improper—but not pathologic—training. These children have what are really healthy personalities, but they have been given the wrong set of directions. They have neither immaturities nor conflicts, but merely wrong impressions of how one should behave. To illustrate, it is perfectly possible for two pickpockets to marry and raise "normal" children who are also expert pickpockets. These youngsters may have received ample love and attention so that they have stable personalities, but they still firmly believe that picking pockets is a challenging and acceptable way to make a living. Psychologic testing of these children does not reveal true psychopathology.

An example of the "outer" type of delinquency was found in a fourteen-year-old girl referred to the Clinic because of a multitude of delinquent acts. Her history was, to say the least, a full one. She had cheated on school examinations, fought with her girlfriends, knocked two teeth out of her boyfriend when she thought he insulted her, lied to the truant officer and seemed to have been the constant center of much aggressive activity. Surprisingly enough when she was tested, the psychologist reported a comparatively normal personality structure. There was, in other words, evidence of a relatively flexible and strong ego and ample conscience and there was little on the test to indicate residual immaturities.

Further history revealed that this girl came from a family where the actions described above were normal and common. Even the street upon which she lived was the daily scene of activities of this type. Knifings had taken place several times in the recent past and fights occurred almost nightly. Tempers flared and the residents of the neighborhood settled things by fighting. Even the small children fought one another with parental encouragement.

The patient's mother had hit a nurse with a mop handle when she was hospitalized for the delivery of her last child. She resented some of the nurse's orders and had chosen her only method for showing this displeasure. The girl's father had praised his daughter when she knocked out her boyfriend's teeth, telling her that this was the proper way to handle such a situation. Surprisingly enough, this girl's parents had given her a reasonable degree of warmth and love during her early childhood and had been sincerly interested in her welfare. They had merely taught her poor methods of living. She illustrates the "outer" type of delinquency which is not truly psychiatric in nature. Other examples are numerous.

In Europe following the last war delinquency was rampant, but who could call the hungry child

who steals food a psychiatric problem? He may be delinquent but he does not have to be emotionally imbalanced. All these youngsters who commit delinquent acts but who are not psychiatrically ill, can be dealt with by means other than formal psychotherapy; particularly by means designed to relieve their real needs and to give them an environment which will help them learn accepted patterns of living.

The physician is concerned primarily with the child who shows a delinquent pattern as a result of inner psychopathology. I would like to mention here some of the most common psychiatric conditions which may lead to overt delinquent behavior. It should be borne in mind, of course, that although these will be presented as separate etiologies, one more often than not finds a combination present in the child.

Mental deficiency is not an uncommon contributing factor to delinquency. The child whose intellectual endowment is beneath that of his contemporaries is engaged in a chronic struggle to keep up with those around him. He often suffers from a feeling of inadequacy and is anxious to gain favor with his friends. If he happens to become associated with a delinquent group he can easily be persuaded into antisocial acts which he hopes will gain him favor with the rest of the group. Because of his mental deficiency he plans and executes these acts in such a way that he is often apprehended.

We recently saw in the Clinic a boy of ten years of age with a three-year history of a multitude of delinquent acts. He had stolen in school and at home as well as in the neighborhood. He had frequently become involved in fights, especially with smaller children. He was rebellious, antisocial and obstinate toward his parents and his teachers. Punishment, which had been frequent, had only seemed to make matters worse. The history showed that this boy had a seven-year-old brother and a five-year-old sister, neither one of whom presented any remarkable emotional problems. Both parents were intelligent and sincere, although neither seemed intuitive in understanding the emotional needs of their children—particularly this boy. Psycological examination revealed an IQ of 72. For comparison, examinations of his brother and sister revealed IQ's of 130 and 123. Other pychological tests, as well as the clinical examination, showed that this youngster felt himself to be inadequate, far beneath his brother and sister in lovability and that he deeply resented what he considered to be their superiority. His brother had progressed rapidly in school while he himself had had increasing difficulties in mastering the work. His resentment showed itself in his obstinacy and rebelliousness at home and he sought the companionship of boys who he felt accepted him more thoroughly. He then proceeded to perform delinquent acts at their urging and to gain their approval. In this case, the mental deficiency was an important cause of the developing character problem within the child. In many similar instances where a more intelligent younger sibling overtakes a mentally defective older one, aggressive and even delinquent behavior may result.

Psychosis at times is another underlying cause for delinquency. This, of course, implies a severe personality disturbance with serious distortion in ego functions. The psychotic child is unable to evaluate accurately the meaning of his environment and may sometimes react aggressively to it. Delinquency as the result of psychosis is not particularly common in earlier childhood but becomes somewhat more so during adolescence.

An example of this type of delinquency was seen in a fourteen-year-old girl who was referred because of acute outbursts of uncontrolled aggressive behavior occurring at home, school and even occasionally in the neighborhood. During these outbursts she became extremely difficult to manage and was physically assaultive toward her parents and schoolmates. She was often destructive to property, obscene in her language and had to be physically restrained. In the periods between these episodes she was a quiet, withdrawn, unsocial child with few friends and she seemed to live in a world all her own. Psychological testing and clinical evaluation revealed an essentially psychotic personality structure. Her ego control was poor and she was filled with tremendous hostility. She felt that everyone was against her and there were many paranoid elements in her personality. She made valiant efforts to control her aggression, but periodically under certain circumstances her control was shattered and the aggression poured forth with great force. Obviously with the psychotic delinquent, the psychosis itself is the important element and it dictates the therapeutic approach as well as the prognosis.

Another possible etiology of delinquent behavior is some organic condition such as a postencephalitic syndrome. Such a child often has a history

of relatively normal personality development and behavior adjustment until the organic condition occurs. Following this, there is a history of a marked change in personality, difficulty in control of instinctual impulses and the formation of a delinquent pattern. At times the organic process occurs very early in life so that the aggressive pattern seems to trace practically back to birth.

An example of this type of delinquency was seen in a boy of eight years of age referred to the Clinic with a history of numerous antisocial acts. He had beaten his little brother's head on the curb to the point of unconsciousness. He had on one occasion tried to stab his sister while she slept. On another occasion he had attempted literally to cremate a smaller child in the neighborhood. He was the frequent center of fights in the school yard. He often truanted from school and his referral to the Clinic was finally brought about when he shot another sister with a gun which he had stolen. The history revealed that he was the middle of eight children, all the rest of whom were relatively well adjusted. He had had a severe illness at the age of fifteen months with a high fever, convulsions and a period of unconsciousness. He had from that time on been difficult to control. He wandered away from home, showed a complete disregard for all rules and conformity and responded poorly to any and all types of punishment. His relationships were weak and tenuous and he behaved on a completely egocentric level. Neurological examination and psychological tests revealed the presence of diffuse organic brain damage.

The next type of youngster is one whose delinquent behavior is based upon an inner neurotic structure. These children are constantly plagued by a sense of guilt. In order to assuage this guilt they commit various antisocial acts in a manner that will lead to their discovery and punishment. The most marked characteristic of these youngsters is the fact that although they are intelligent and could undoubtedly get away with many things, they almost invariably leave some type of trail which leads to their apprehension and punishment.

A typical example of this type of delinquency is seen in a twelve-year-old boy referred to the Clinic for stealing money and cheating in school. The history showed that he had, on at least ten occasions, taken money from other youngsters and from home. Also he had taken small, relatively useless items from stores. There were at least a half-dozen times when he had been discovered cheating flagrantly in school. As a more detailed account of these various episodes was obtained, it became evident that this boy was unable to steal or cheat in a manner that would escape apprehension. He had, each time, arranged his own capture. For instance, it was discovered that although loose change was often lying around his own home, he stole only from one particular place where the money was always kept carefully counted. The teacher reported that his cheating in school was done in such a way that it could scarcely escape detection. The boy always received his punishment almost as if it were a relief and seemed genuinely sorry for what he had done.

This brings us to the last (and probably the largest) group of delinquents whose behavior pattern rests upon inner psychic problems. These are the aggressive character problems which are often labeled psychopathic states when they occur in adults. These are youngsters who have a chronic fight with society. They are egocentric, immature, aggressive and live primarily on the pleasure principle. They want what they want when they want it and do not hesitate to take it from someone else. They suffer little guilt, and punishment only makes them more angry at society so they pursue more antisocial behavior. These are youngsters who have suffered a lack of warm parental love existing from early in life—often combined with excessive punishment. They have had no reason to love since they themselves were not loved. Conseqeuntly they remain infantile and love only themselves. They are childish, easily frustrated, unable to form stable relationships and do not learn from experience.

An illustration of this type of delinquent is seen in a fifteen-year-old boy brought to the psychiatrist by his wealthy and influential father. The boy had been a frequent offender for years. He had stolen repeatedly, had truanted and fought and had been expelled from four private schools. He had been accused of sexual approaches to several adolescent girls. On each occasion his father had used influence or money to get his son out of punishment. The boy was superficially pleasant, told only what he thought the psychiatrist already knew and obviously felt little guilt. If contradicted or forced to see something he would have preferred to overlook, he became belligerent. He obviously felt that he was right and everyone else wrong. He had no anxiety and was not uncomfortable. He

seemed to feel his rights were constantly being infringed upon and resented anyone correcting him.

This brings us to the important consideration of the parental role in responsibility for delinquency, especially of the psychiatric types. Considerable research[1] has produced evidence showing that in most of these cases there exists a conscious or unconscious parental approval of the delinquency. This statement might seem ridiculous to most parents and many physicians, but this is because they do not take into account the unconscious.

To give an example, let me briefly describe a "truant" although perhaps not a true delinquent. This eleven-year-old girl had missed more school than she had attended. Hers was a "good" family which was respected and apparently stable. Yet, as the psychiatrist gradually learned more about the home it was discovered that the mother did not like to be alone and in many ways felt uncomfortable when her daughter went to school. She frequently encouraged the child to stay home for minor illnesses and the daughter sensed this anxiety her mother felt when she attended school.

Parental contributions to delinquency are far more often on an unconscious rather than a conscious level. This means that they are quite subtle in their form. Neither the parent nor the child is consciously aware of the true state of affairs and it may be difficult to help them understand these unconscious factors. One father I know has repeatedly ignored warnings (and pleas) by neighbors and teachers and even psychiatrists that his son is seriously delinquent. The boy has stolen, lied, been destructive, truanted and been rebellious with his mother and even with his father. Yet this man states that he himself was this way at a younger age and then says, "Look at me now." The boy is aware of his father's permissive attitude toward his delinquency and somehow senses that this is one area in which he receives recognition from his father.

Thus, it can be seen, in summary, that the psychiatric aspects of delinquency are complicated. In some cases, a purely sociologic approach is sufficient. However, when the child's problem stems from emotional concomitants in himself or his home, a search must be made for the underlying cause of the behavior pattern and then appropriate steps taken to change this pattern.

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GENERAL PRACTICE AND PSYCHIATRY

(Continued from Page 1546)

or community. Further, when I have called upon non-psychiatrically trained physicians to participate in mental health projects, they have accepted and worked with enthusiasm and effectiveness.

This, in general, is what we have been discussing today and gives an indication of the thinking at the national level and the possibilities at the local level.

It is my hope and sincere desire that you of the Michigan branch of the American Academy of General Practice and we of the Michigan Society of Neurology and Psychiatry (which is a district branch of the American Psychiatric Association) could have a joint committee similar to that functioning on a national level to develop the program to meet our needs. I would sincerely hope that your Academy would entertain such an action committee. I can assure you of the co-operation of our Society.

Summary

In summary, there is a definite movement afoot between psychiatry and general practice, at the national level, for the exploration and encouragement of the closest relationships—particularly in the area of the training and teaching of psychiatric material to the generalist.

We need to encourage the existing programs we have in our state and I strongly urge that we begin a hospital seminar program in our hospitals. An action committee to set such pilot programs in motion would be highly desirable.

Multiple Sclerosis

A Physiatric Approach to Management

By Kathryn J. McMorrow, M.D., M.P.H.

Detroit, Michigan

MULTIPLE SCLEROSIS is the most common disease of the human central nervous system. Characterized as it is by remissions and exacerbations, it often poses a difficult diagnostic problem to the physician. It is a disease of young adults with its peak age of onset in the third and fourth decades of life. Because we presently do not know the etiology, nor do we have a specific treatment, it is necessary to treat multiple sclerosis symptomatically. This requires an evaluation of the disabilities and a program of management which the patient can understand and to which he can lend his wholehearted co-operation.

The National Multiple Sclerosis Society estimates there are 10,000 patients in the state of Michigan, based on national figures of incidence. This is probably a minimal figure because it is also estimated that the prevalence in the Great Lakes area is seven times that found in the same latitudes, both in the United States and in Europe. This disease is not a killer but it is productive of severe disability and must be considered in the category of a chronic illness. The patient does have 85 per cent of a normal life span. Therefore, any approach to management must consider the emotional, social and vocational problems, which do arise in its management along with those of a physical nature.

Fatigue is the most prominent complaint of the patient and, for the physician, it is difficult to deal with. That patient is especially trying who has an associated character disorder, or when members of his family believe the complaint of fatigue is used as a method of control. These two latter considerations do require, in addition to counseling by the family physician, both psychiatric casework and family counseling services. Without their resolution, the physician will be frustrated in his management because he cannot secure either the patient's co-operation or that of the family. A useful rule of the thumb in dealing with the problem of fatigue is an explanation of the "energy budget." A sincere explanation by the physician as to why one does not spend next week's budget for necessities on this week's desires may suffice to keep the patient from overdoing to his own disadvantage.

Ataxia is another disability which the physician is called upon to manage. Careful observation of patients with ataxia suggests these results in those who are not maintained on physical treatment: First, the hip flexor muscles become weakened because of the wide based gait the patient attempts for stability. Then, an increase of lumbar lordosis occurs with tightening of the lumbosacral fascia. As a direct consequence of this, both the gluteus maximus and the gluteus medius muscles become overstretched and weak. This further impairs ambulation. Some patients will use canes to improve balance, but the large majority will, at this stage, spend much more time in a sitting or lying position. We then have a general deconditioning of all the musculature of the body. This includes the less efficient use of the respiratory muscles and an increase of fatigue because of the diminished pulmonary reserve. The patient with ataxia should be placed on a program of physical treatment within his individual tolerance to fatigue.

The program of exercises in this symptom complex is as follows: (1) Stretching of the lumbosacral fascia, (2) Straight leg raising, (3) Pelvic tilting, (4) Quadrupedal balance, (5) Squatting balance and (6) Progressive resistive exercise for gluteus maximus and medius muscles. Naturally, during an exacerbation, the patient should be kept on strict bed rest.

A third disability arises as soon as pyramidal tract deficits occur. When the anterior tibialis begins to tire and lose its function and clonus becomes troubling, a properly constructed short leg brace can do much to keep the patient ambulating satisfactorily. The stirrup-type brace, with a spring pickup and a T-strap to control supination, has proved to be adequate. The orthotist, however, must be cautioned that there is to be allowed no plantar flexion; otherwise the troubling clonus will continue to be present. The spring should allow 15 degrees of dorsi-flexion and the T-strap should

be sewed between the insole and the upper part of the shoe for control of the spastic inversion of the heel during the swing phase of the gait. Stretching of the heel cord and other spastic muscles should become routine early in management.

The patient who has developed spastic paraplegia has a much more severe disability and, consequently, management is far more difficult. The goal for the patient who also has weakness and tremors and inco-ordination of the upper extremities is, in fact, the wheelchair. This patient should be taught wheelchair activities of daily living.

The patient who has a good trunk and little or no involvement in the upper extremities can be helped. Stretching of the spastic muscles and strengthening of the upper extremities, including the trunk and the latissimus dorsi, are of prime importance. An appliance known as the Keystone Splint allows the spastic patient to stand supported in the ischial region. Ambulation in parallel bars will result in strengthening of the pelvic musculature and the lower abdominal muscles while wearing the Keystone Splint during a period up to six months. Generally this patient can then be ambulated with conventional crutches and short leg braces.

A fourth symptom very troublesome to the patient and the physician is that of bladder control. Frequency, urgency and incontinence not only are fatiguing to the patient, but can also result in social isolation and the loss of employment. Bladder infection is common. Every patient should have a urological workup, including cystometrograms, which will distinguish the type of bladder the patient has. Strengthening of the perineal musculature either through muscle re-education or through the use of the perineometer should be attempted at the first sign of frequency because urinary symptoms often are the result of poor muscular tone in the pelvic floor. Bladder stones also are not an infrequent complication of the urinary problem in these patients. Where long periods of non-weightbearing have occurred, osteoporosis may be present along with the osteomalacia and, therefore, hormonal therapy may be required.

The sensory deficits which do result in multiple sclerosis have proved to be impossible of any rational management. Phanodorn® may be of benefit in the severe tremors in certain individuals. However, there is no way of determining, without a trial, which individuals will respond. The use of functional occupational therapy can assist in the improvement of the co-ordination of the upper extremities. Nevertheless, treatment of these symptoms remains frustrating.

Many patients with severe inco-ordination and intention tremor of the upper extremities do become malnourished. The physician, confronted with the management of such patients, should take care to elicit the type of nutrition the patient is receiving. Not uncommonly a woman may literally starve because she cannot communicate her needs to her family. This is particularly true when the job of feeding is left to unsupervised children while the husband is working, or has abandoned his wife and family.

Constipation with fecal impaction also is a troubling symptom which must be managed. It is far more common than bowel incontinence in the patient with multiple sclerosis.

A few of the appliances which do help in activities of daily living for the multiple sclerosis patient are:

1. A collapsible wheelchair. This wheelchair should have at least foot plates, hand rims and hand brakes. Prescription of 8-inch casters rather than the conventional 5-inch casters will allow the patient to turn in a smaller area of space. This is especially helpful in toilet activities.
2. The standing table is a vital part of the equipment for the patient. It is expensive to buy, but easily constructed by an interested relative. Some time is spent each day in the standing table. This has the beneficial effect of reducing negative nitrogen balance and improving both the equilibratory and neurocirculatory reflexes in those patients who can no longer ambulate.
3. A porta lift is an especially helpful piece of equipment for the bedridden patient, or one too heavy to be lifted from his wheelchair to bed. It allows one person to do what normally would be required of two.
4. All canes and crutches should have suction tips which improve the stability both of the patient and the appliance.
5. A bedside commode is helpful in lessening the need for linens and for laundry service. This is especially true where the patient has urgency but is not truly incontinent.

The final portion of this paper will deal with some of the commonly met emotional, social and vocational problems with which the physician is often called upon to assist.

It is important to the patient with multiple sclerosis to feel that he has access to his physician for answers to the questions which beset him. The patient, generally, is anxious concerning the disabilities which take him to the physician in the first place. He is anxious concerning what multiple sclerosis is, and what effect it may have on him and his family. He is anxious whether he can hold his job. He is anxious about the whole host of drugs, and kinds of treatment to which he may be exposed. These questions do require straightforward but sympathetic answers.

Patients will, from time to time, become depressed. They will tend to isolate themselves from their family and friends. Not uncommonly they will have problems in the discipline of their children because of the fatigue factor and other physical limitations. The family doctor will find staunch help through pastoral counseling in these kinds of situations. Specific social casework services are often indicated, and referrals to local family service and other casework agencies will prove fruitful sources of assistance.

Visual difficulties do much to throw the patient back on his own inner resources. When reading, television and the movies can no longer be enjoyed because of the visual difficulty, the patient may resort to telephoning his physician to cope with his anxieties. Referral to "talking books," which are available in most libraries, will save the physician a great deal of time in dealing with these calls. A short note by the physician to the State Bureau of Social Aid can bring assistance to the patient through Aid to the Blind. The physician can remind the breadwinner that the Department of Internal Revenue does allow a second deduction where blindness is present.

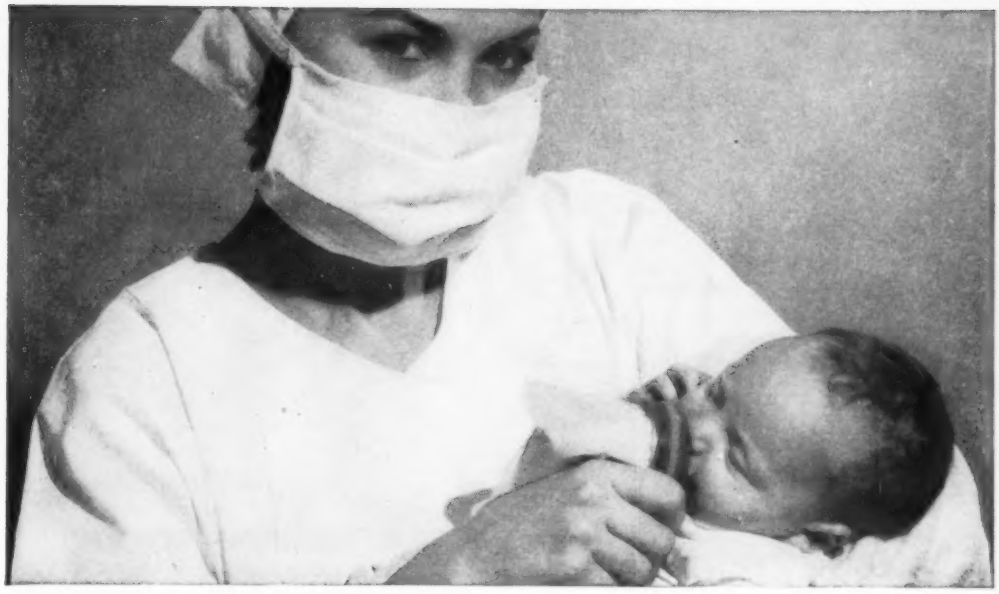
Advice to the patient and his family concerning Social Security freezes, Aid to the Disabled and Aid to Dependent Children will be deeply appreciated. Referral to the State Office of Vocational Rehabilitation may help some of the patients with multiple sclerosis to benefit from the medical and vocational rehabilitation programs carried out by this division of the State Department of Public Instruction. These are all legitimate sources of help for the physician and his patient and they should be used. To suggest their use early may prevent a state of medical indigency with the consequent loss of the basic patient-physician relationship so vital to the patient.

Not infrequently, with the patient's permission, a frank discussion by the physician with the employer will help a patient to continue gainful employment. The patient will actually quit his job long before this would be necessary rather than ask for minimal concessions from his employer. Such simple things as the request to park his car closer to the employment facility are definite considerations which the employer usually can understand, and to which he will quite readily agree. Finally, the physician can benefit materially in a sustained program of management through the services of the visiting nurse or health department. This is especially true in those communities where a home care program has been developed. For example, in the Metropolitan Detroit area the Visiting Nurse Association does have available to the practicing physician nursing services, physical therapy according to the doctor's prescription, occupational therapy and even homemaker's services. The latter kind of service is invaluable when the patient may require hospitalization for a short period of time.

The entire concept of patient care is changing. Chronic illness, of which multiple sclerosis is a conspicuous example, requires the increasing cooperation of the family physician and those people in the community who can work with the physician to the advantage of his patient. The busy practicing physician cannot use his time to integrate and correlate these various kinds of services. However, because he is ultimately responsible for the care which the patient does receive, he can initiate these specific adjuncts to management. Unless he does this, his patient may seek out nostrums and cultist kinds of treatment, which may result in complete medical and social indigency.

To summarize in the management of the patient with multiple sclerosis, the physician-patient relationship is of primary importance. The physician is responsible for initiating the use of existing community resources necessary for his patient. The many problems arising in the course of a long-term illness such as multiple sclerosis have been discussed. The emotional and social factors inherent in the chronicity of multiple sclerosis are as important for the physician to manage as is the physical disability.

Michigan Multiple Sclerosis Center
1800 Tuxedo
Detroit 5, Michigan



Hospital practice of infant feeding

Self-regulated schedules

The newborn may become a feeding problem if the formula is excessive or if he is awakened to be fed forcefully.

The young infant may balk at new food or procedure. The older infant, devoted to his bottle, may resent weaning—it takes a certain readiness for weaning to make the change agreeable. Later, the infant may become somewhat independent and arbitrary—what he enjoyed yesterday he rejects today.

WHOLE MILK FORMULAS

Age Months	Whole Milk Fluid Oz.	Water Oz.	Karo Syrup Tbsp.	Each Feeding Oz.	Number of Feedings in 24 Hours	Total Calories
Birth	10	10	2	3	6	320
1	12	13	3	4	6	532
2	15	13	3	4½	6	480
3	17	9	3	5	5	520
4	20	11	3½	6	5	610
5	23	11	4	6½	5	700
6	26	10	4	7	5	760
7	28	11	3	7½	5	740
8	30	11	2½	8	5	750
10	32	9	2	8	5	760
12	32	9	0	8	5	640

EVAPORATED MILK FORMULAS

Age Months	Evaporated Milk Fluid Oz.	Water Oz.	Karo Syrup Tbsp.	Each Feeding Oz.	Number of Feedings in 24 Hours	Total Calories
Birth	6	12	2	3	6	380
1	8	16	3	4	6	532
2	9	14	3	4½	5	576
3	10	15	3½	5	5	650
4	12	18	4	6	5	768
5	12	21	4	6½	5	768
6	13	22	4	7	5	812
7	14	21	3	7	5	796
8	15	20	2	7	5	780
10	16	16	1	8	4	764
12	16	16	0	8	4	704

When a feeding problem is in the making, sensible decorum will solve it. Nature invites infant feeding cooperation through hunger. If hunger is appeased on demand rather than by clock there will be fewer problems—the baby is the best judge of when he wants food and how much.

Feeding must be adapted to the infant individually to make it a pleasurable experience. This is the current objective in successful infant feeding formulated for normal infants in the charts below:

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...in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only ⅔ that of prednisone[1]... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as *markedly improved*[2]...absence of serious side effects specifically noted.[1,2,3]

...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]... 6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
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8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
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13. Dubois, E. L.: Personal Communication.

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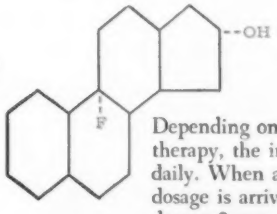
Triamcinolone LEDERLE

...in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.[6]... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.[7]

...in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome.[8,9]... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone.[10,11,12]... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus.[13]



Depending on the acuteness and severity of the disease under therapy, the initial dosage of ARISTOCORT is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will suppress symptoms.

Comparative studies of patients changed to ARISTOCORT from prednisone indicate a dosage of ARISTOCORT lower by about ⅓ in rheumatoid arthritis, by ⅓ in allergic rhinitis and bronchial asthma, and by ⅓ to ½ in inflammatory and allergic skin diseases. With ARISTOCORT, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

ARISTOCORT is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.

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Midline Incision for Cholecystectomy

By Millington O. Young, M.D., F.A.C.S.
Detroit, Michigan

THE PURPOSE of this brief report is to call attention to two facts: (1) unexcelled exposure of the extrahepatic biliary system is obtained via a high midline incision and (2) unequaled ease of performance of the various technical maneuvers of biliary tract operations is obtained by use of the high midline incision with the surgeon standing on the patient's *left* side.

Cholecystectomy is the most common upper abdominal operation. Surgical custom dictates that the operator stand on the patient's right side and use a right vertical or subcostal incision. It is also customary to advise against changing a method or procedure that has proven satisfactory in achieving the desired results. Nevertheless, it is believed that surgeons may be interested in the better exposure and increased technical ease made possible by standing on the patient's left side and working through a midline incision. These benefits should be even more apparent to the left-handed surgeon and to the surgeon who works with only one assistant.

In recent years, the midline incision has become increasingly popular for upper abdominal operations. However, none of 562 surgeons responding to a questionnaire indicated they used a midline incision for cholecystectomy.[3] This incision has several advantages. It is easier and quicker to open and close. No muscles or nerves are transected with the result that the patient experiences less discomfort during the postoperative period and permanent damage to the abdominal wall is minimal. The higher location of the incision with respect to the costal arch reduces the chance for dehiscence since the tension exerted is less at this level and the liver underlies a good portion of the incision. It is interesting to note that a majority of textbooks of surgical anatomy and atlases of operative technique depict the anatomical structures in the region of the hepatoduodenal ligament as viewed from the patient's left side.

From the Department of Surgery, The Riverside Clinic, Detroit, Michigan.

In 1954, Moore [1] reported his experience using the midline incision for fifty-six biliary tract operations. The excellent exposure of the structures of the hepatoduodenal ligament obtained when cholecystectomy had been performed with gastrectomy via a midline incision had been noted and led to the routine use of this incision for operations on the biliary tract. Exposure was good in all instances, regardless of the patient's obesity or the size of the costal angle. Saint and Braslow[2] described the beneficial effect of removal of the xiphoid process in increasing the lateral retraction of the wound margins. In the occasional instance where additional exposure is required, this brief maneuver is most helpful.

Stimulated by these reports, I have used the midline incision routinely for upper abdominal operations.[4] Additional experience using this incision for biliary tract operations has led to the conclusion that its many advantages deserve wider notice. The surgeon, standing on the patient's left side, inserts a self-retaining retractor. A deep blade attachment is used to retract the padded liver upward. A folded pad is placed over the duodenum which is pulled downward using a broad malleable (or other suitable) retractor held by an assistant. A pad is inserted to displace the hepatic flexure and any small bowel on the right and, if necessary, another is used to displace the stomach on the left. This allows an excellent view of the tensed hepatoduodenal ligament. The fundus readily comes into view when traction is made on the gall bladder. The latter is usually removed from below upward after injection of its bed with saline. Drains and tubes are brought out via a small stab wound through the upper end of the right rectus muscle. The single thick fascial layer is closed with interrupted figure-of-eight sutures of 00 serum-proof silk. Stay sutures have not been used.

There have been no wound complications in seventy cases in which this incision has been used for cholecystectomy and/or choledochostomy.

(Continued on Page 1600)

A World of Medicine

International Newsletter No. 2

By Robert Hodgkinson, M.D.
Detroit, Michigan

A PHYSICIAN'S graduation may be dated by his familiarity with the viruses. This provocative statement serves to emphasize that few aspects of medicine have progressed in such steady, well defined steps during the past half century as the growth of virology. By 1910, four diseases (poliomyelitis, rabies, smallpox and yellow fever) were known to be caused by viruses. By 1920, a further four (chickenpox, measles, warts, herpes zoster and simplex) had been added to the list. Little progress was made in the twenties, but by 1940 mumps, rubella, influenza, psittacosis-lymphogranuloma infections and encephalitis (St. Louis, Japanese B and Russian Far East) had been shown to be of viral etiology as were infectious hepatitis, serum hepatitis and epidemic viral gastroenteritis ten years later.

In the 1950's, attention has been focused on the Coxsackie, the ECHO and the adenoviruses. The Coxsackie viruses are responsible for Bornholm's disease (epidemic pleurodynia) and probably for aseptic meningitis[3,6,10,11] and some cases of summer diarrhea. James Gear and his co-workers in South Africa, as well as other workers,[13] have shown these viruses to be the cause of a highly dangerous form of myocarditis frequently associated with encephalitis and meningitis. The Coxsackie viruses can frequently be isolated from the intestinal tract in both health and disease, there are at least nineteen antigenic types divided into group A and group B strains, and they are cytopathogenic (that is, they have the capacity to injure the cells in which they multiply during experimental propagation).

ECHO viruses are also found in the alimentary tract and are cytopathogenic. There are at least fourteen types. ECHO, an abbreviation for enteric-cytopathogenic-human-orphan, was a term devised to clarify earlier terminology. Their rôle in human disease has not been defined, but they are probably responsible for a proportion of cases of non-paralytic poliomyelitis and can cause diarrheal and respiratory disease.

Interest at the moment is concentrated on the adenoviruses (APC, RI or ARD viruses) which are responsible for a substantial proportion of undifferentiated respiratory diseases. At least fourteen serologically distinct adenovirus types have been established, of which twelve have been recovered from the human. Types 1, 2 and 5 occur chiefly during infancy and early childhood, whilst other types are most frequently "unmasked" from the adenoids and tonsils. They can cause an acute febrile pharyngitis similar to that caused by the influenza and hemadsorption viruses. Types 3, 4a, 14 and more rarely others cause pharyngo-conjunctival fever, a five-day illness occurring endemically and in sharp outbreaks. Types 4 and 7 are responsible for a considerable amount of acute respiratory diseases in military recruits. Type 8 has been associated with epidemic conjunctivitis. Virus pneumonia and acute follicular conjunctivitis have been attributed to other types. Serological evidence from widespread areas indicates that man is commonly infected with adenoviruses. They are readily spread from person to person. Disease has been successfully transmitted by bacteria-free nasopharyngeal secretions and by direct inoculation of types 1, 3, 4 and 5. Volunteers having specific antibodies are resistant.

The adenoviruses were responsible for an epidemic of pharyngo-conjunctival fever which started in Hamburg and spread south through Germany and into Switzerland in late 1955.[5,7] Viruses of serological type 6 were isolated in one group of 143 cases but one type accounted for ninety-two of the cases.[13] The disease presented as a high fever of acute onset lasting for about a week, associated with severe inflammation of the nose, throat, conjunctiva and with leukopenia. Conjunctivitis was seen in about a third of those affected, and the conjunctiva was red, edematous and granular. Half the patients suffered from nasal obstruction. The tongue resembled the strawberry tongue of scarlet fever, and enlargement of the lymph glands was common. Cough was conspicuous by its absence, and chest complications did not occur. School children between the ages of

five and sixteen were mainly affected. Some patients complained of vomiting, diarrhea, abdominal pain and this led to diagnoses of typhoid, dysentery and appendicitis; others showed headache, neck rigidity and convulsions suggesting a diagnosis of poliomyelitis or meningitis.

In the course of a trial of an influenza vaccine in Holland[4] amongst 2,000 factory personnel, 168 persons developing acute respiratory disease were investigated virologically and serologically. About 20 percent were found to be suffering from influenza B infection, and in most of the other 80 per cent there was a fourfold rise in titre against the adenoviruses. Morbidity was 15 per cent among the 1,000 influenza-vaccinated persons and 11 per cent in the 1,000 non-vaccinated. Complement fixing and neutralizing antibodies were also widely distributed in sera collected in Yorkshire, England.[1] Of 223 paired sera from patients suffering from acute respiratory disease studied by B. Balducci and his co-workers, twenty-four showed arise in complement fixing antibody titers.

Adenoviruses have been shown to be the cause of some outbreaks of epidemic keratoconjunctivitis, but other agents may also be involved. Wright, in 1930, demonstrated inclusion bodies in the corneal scrapings from patients in an outbreak in Madras. In 1941, Sanders claimed to have isolated a virus later shown to be variant of the St. Louis encephalitis virus from the epidemic of shipyard fever which occurred on the west coast. Recently, Fowle and her colleagues in Canada and Jawetz and his associates[9] in California have succeeded in isolating adenoviruses from patients. In Canada, it appears that type 3 was responsible and in California, type 8. Sera from patients in Japan, Italy, Switzerland and North America have been shown to contain neutralizing antibodies to type 8, whereas such antibodies are absent from the general population. Complement fixation tests indicated that an outbreak on the Clydeside in Scotland was probably caused by the adenoviruses.

Both formaldehyde- and heat-inactiviated adenovirus vaccines have been prepared.* In a controlled trial, 4,000 naval recurits received a formaldehyde-inactivated vaccine of types 3, 4 and 7. A substantial rise in the titre of serum antibodies was demonstrated, and there was a marked reduction in the incidence of febrile illnesses and diseases requiring admission to hospital. Type 4, but not types 3 and 7, adenovirus infections were prevalent at the time.[2] From field trials, it was concluded that the volunteers with antibodies, either induced by vaccine or naturally acquired, experience a much greater protection against infection. Types 4 and 7 adenovirus vaccine has been shown to be effective one week after injection[12] and maximum antibody levels to be reached in two weeks.[8] Two injections did not appear to give a higher titre than a single inoculation.

*A formaldehyde inactivated vaccine is now available commercially.

World Health Organization

The World Health Organization expert committee on rabies, which met at the Pasteur Institute in Paris at the end of 1956 under the chairmanship of Dr. Pierre Lépine, concluded that serum therapy combined with a vaccine was the best available treatment. The injury should be cleansed and cauterization with nitric acid and serum injected round the bite. Those exposed to rabid animals should be protected with chicken embryo or nervous tissue vaccine and be given a booster dose if bitten.

In Iran, it had previously been decided to investigate anti-rabies vaccine combined with hyperimmune serum for human beings bitten by suspected rabid animals. A separate study demonstrated that hyperimmune serum increased antibody titres in volunteers. In August, 1954, a rabid wolf attacked twenty-nine of the inhabitants of the small Iranian town of Sahané before being killed. The patients were quickly transported to the Pasteur Institute in Teheran. Eleven of the twenty-nine patients bitten on the limbs or trunk recovered whether treated with vaccine alone or with the addition of serum. Of the remaining eighteen with head injuries, three of the five given a twenty-one-day course of vaccine alone died, whereas of the thirteen given serum in addition to the vaccine only one, who had received only a single dose of serum, died. The mortality from rabies after wolf bites on the head has previously been shown to be 60 per cent in untreated victims and 28 per cent for those receiving vaccine.

Israel had also been previously selected for the trial of a living antirabies vaccine for dogs because of its well-organized public health service and the high incidence of the infection in animals. The vaccine had been proved earlier to have a powerful immunization action, to be harmless for dogs and to confer immunity for three years or more, thereby showing its superiority over inactivated vaccines.

A similar vaccine has been used for the vaccination of South American cattle subject to the bites of rabid bats and in Malaya. Ninety per cent of all dogs in Israel were vaccinated and other control measures such as the destruction of stray dogs and jackals undertaken. The incidence of rabies was at first markedly reduced, but in 1954 there was a sharp increase. However, of the thirty cases reported in dogs, none occurred in vaccinated animals.

Other countries involved in the rabies campaign were Latin America where the vector is the vampire bat, Canada where there has been a heavy epidemic among foxes, wolves and other wild animals, and Southern Rhodesia where jackals have been shown to transmit the infection. In India, 150,000 people have to be treated annually with anti-rabies vaccine following bites. Great economic loss is caused through sheep, cattle and other valuable livestock being bitten. In the United States, even bats which feed on insects and fruits have been found to be infected, and since 1953 about 100 cases of rabid bats have been reported. Three of these bit human beings. Bat surveys in various countries are being encouraged by the World Health Organization, so that more information on transmission can be accumulated. The bulldog-faced vampire bat is feared in Trinidad, although it bites mainly cattle. Although a number of countries have succeeded in eliminating rabies, increased international communication makes the presence of this or any other infectious disease in one country a potential threat to all others. Rabies was common in the United Kingdom in Napoleonic times, but it has since been eliminated by a strict quarantine. The first case of rabies since 1911 in the British Isles occurred in May, 1955. The man who died had been bitten in Pakistan two months previously.

Europe

Dr. G. Rath, of the Institute of the History of Medicine of the Bonn University, recently discussed the modern diagnosis of historical epidemics. Medical knowledge and terminology have been subjected to continual change and the same disease may appear very differently to an observer who considers disease on the basis of, for instance, a faulty mixing of the humors. Also, in many cases, past epidemics have been described only by lay people.

The term plague has been used to describe any overwhelming epidemic causing many deaths, and it therefore includes a multitude of diseases. We have, for instance, the "plague of Homer" of which even a tentative diagnosis is difficult, the "plague of Thucydides" which might be any of the infectious fevers, and the "plague of Antonin" which ravaged the Roman empire during the second century A.D. and caused Galen to flee from Rome and desert his patients. The first accurate objective description of true bubonic plague is not a physician's report but was written by the historian Prokopios in connection with the "plague on Justinian" which occurred in Constantinople during the sixth century A.D. After the "Black Death" of the 14th century, which was described by Guy de Chauliac, plague was very clearly defined.

In the 15th and 16th centuries, two new epidemics occurred. "English sweat," or as it has been alternatively called the "French disease," "Lenticulae" or "Petochial fever," started in England and invaded the continent in epidemic form in 1529. In was characterized by fever, headaches, somnolence and particularly by a drenching sweat. It was probably a virus infection but has not been described since. The other was the disease referred to as the "French disease" or "Morbus Gallicus," which has usually been considered to be syphilis. The prolonged controversy as to whether it was brought from America by Columbus or whether it existed in Europe before his time was given a new perspective about twenty years ago by Essed, a Dutch physician. He suggested that Morbus Gallicus was not syphilis but yaws. Reading through the reports without bias, the modern diagnosis of the French disease would certainly be yaws. It is a highly infectious disease characterized by discharging skin lesions, evil-smelling pus, severe bone and joint pains, extensive destruction of the nose and face and, like syphilis, has three stages.

Central and South America

The British Caribbean territories extend in the form of an arc of over 2,000 miles from British Honduras in Central America to British Guiana in South America. Between these two points lie the Cayman Islands, Jamaica, the Leeward and Windward Islands, Barbados, and Trinidad. These widely separated islands and mainland territories have close historical, cultural and economic ties. The surrounding sea markedly modifies the

tropical climate of the islands, and all have similar problems. The population is largely descended from African negroes, only 5 per cent being of unmixed white descent. Bananas, sugar and citrus fruits are common to all. Only Trinidad has rich supplies of oil and asphalt.

Improved medical care has resulted in a rapidly growing population, and the economy has difficulty in both absorbing these and increasing living standards. The excess of births over deaths is 25.3 per thousand, and the infantile mortality has fallen to 77 per thousand. Birth control is difficult since the average native believes a large number of children is an index of virility. The incidence of malaria is falling, and eradication is possible. Mortality, but not morbidity, from tuberculosis has declined, and mass vaccination campaigns have been completed in five territories. Mass treatment for yaws, which a sample survey showed an incidence of about 4 per cent, is under way in some islands. Paralytic rabies in cattle is increasing due to reintroduction from the main foci in South America.

Jamaica is the largest and richest of the islands with a booming tourist industry, large deposits of bauxite, profitable banana, rice and sugar plantations and increasing industrialization. Described by Columbus as "the fairest land that eyes have beheld," its people are relatively healthy, prosperous and have over a 70 per cent literary rate. The chief city of Kingston (population 155,000) is a logical choice as the capital of the projected Caribbean Commonwealth.

In 1945, the University College of the West Indies was established in Jamaica. Both preclinical and clinical instruction are given to medical students, and graduates receive a degree from London University. The Caribbean advisory committee for medical research was recently created, and close ties were established with the East and West African Councils for Medical Research and the Medical Research Council in London.

At a recent scientific meeting, papers covered a wide range of topics. The Regional Virus Research Laboratory in Trinidad reported the isolation of the Mayaro virus and the demonstration of two antibodies in the blood of the local inhabitants. Dr. G. Giglioli described studies he had made on mosquitoes in British Guiana since 1923. Anopheles darlingi has been shown to be the only vector of practical importance, and the acidity of the water in some areas prevents breeding. By names of DDT, malaria had almost been eliminated from this country since the war. Difficulties in the diagnosis of yaws were discussed. Serological reactions were of little assistance and a large proportion of lesions were not recognized as such. Experimental work indicated the root of hair follicles as a source of patent infection during remissions. Two locally occurring diseases were described: veno-oclusive disease of the liver in infants and a neuropathic syndrome in which there was upper motor neurone damage, damage to the first sensory neurone, rectrobular neuropathy and eighth nerve deafness. Lymphogranuloma venereum, bone and joint diseases, sickle-cell anemia and filariasis were also discussed.

The nature of vomiting sickness of Jamaica, which has been the cause of many deaths in children suffering from malnutrition between the ages of two and ten, was also the subject of a paper. The ackee tree has long been suspected as a possible cause. Its arillus is a favorite food in Jamaica and tastes like a fatty variant of roast chestnut. Following thirty-two deaths in St. James in 1951, an investigation was initiated and hypoglycemia was demonstrated in some cases. Later, two new polypeptides, hypoglycin A and B, capable of producing fatal hypoglycemia in laboratory animals were isolated. Following a survey of medical plants in Jamaica, a number of bush teas were tested clinically in the treatment of diabetes. None produced hypoglycemia. Extract of ackee was not tested owing to inadequate supplies.

South East Asia

Dr. C. Mani, Director of the World Health Organization Regional Office for South-East Asia, gave a broadcast recently over the India radio on the amount spent by South-East Asian countries on health. He stressed the point made many times before—but still requiring continual repetition—that the direct economic gains resulting from health schemes is far greater than the investment required to carry them out. In Thailand, approximately 10 million work days were lost each year, until very recently, due to malaria. This meant an annual financial loss of not less than 100 million baht—a sum fifteen to twenty times higher than the entire yearly budget needed to bring the disease under control and eventually to eradicate it completely.

Many countries in this area are rapidly increasing their investment in health. Ceylon has in-

creased its health expenditure five times during the last twelve years until it accounts for 2 per cent of the total national budget. The second five-year plan in India calls for an expenditure of 2,600 million rupees as compared with 1,200 million rupees under the first five-year plan. Of equal importance to the amount spent is how it is spent. It is tempting to lavish huge sums on the construction of showy buildings, such as hospitals when a greater return could be obtained by the use of prophylactic measures and mass treatment campaigns. Possibly the biggest problem in this area is the shortage of health workers. Whereas, countries in other parts of the world have one physician to every thousand of the population or more, no country in Asia has more than one for every 5,000 to 6,000 and many only one to 60,000 to 70,000. The shortage of nurses, midwives, sanitary engineers and health educators is even more critical.

The *Manila Times* of January 15, 1957, quotes Dr. Horace Delien, of the public health service, in confirmation of the lack of nurses in the Philippines. Instead of a ratio of one public health nurse to every 5000 of the population, there is only one to every 23,500. The shortages are accentuated by an uneven distribution which means that some areas are served by only one nurse to every 100,000 by the expanding rural health program, by the new anti-tuberculosis program encouraging home nursing, by the mushrooming of private and public hospitals, and by a population increase of 400,000 every seven years (in a population of 21 million).

Australia

There is an old belief that "primitive" races have less developed color vision and that many pigmented people have an insensitivity to blue. It appears, however, that this is largely a deficiency in language rather than vision, for in undeveloped languages many colors have no names of their own. The name of some associated object is used, or one word is used for several colors. For example, among the inhabitants of Upper Egypt, the word for milk is used for light colors and blue, and the word for yellow may be applied to green, light brown and faint red.

In an article on color vision in the native races in Australasia, Drs. Ida Mann, of Perth, and Dr. Cecil Turner, of Port Moresby, Papua, observe:

"This belief is probably based on old fallacious notions of an increasingly adequate color discrimination becoming developed as one climbs up the phylogenetic tree. Since we now know that man is nowhere near the top of this tree in specialization, and that color vision appears at intervals throughout the taxonomic scale, beginning certainly in the Teleostein fishes and possibly in the Holosteans (Walls) there is no argument left for the belief that the more primitive a race, or indeed a species the less its powers of hue discrimination."

In the course of three surveys to determine the incidence of eye disease found in Australasia, the opportunity was taken to test the people with the Ishihara color test. Results based on tests on over 500 white male subjects and over 4,000 aboriginal male subjects show that the incidence of defective color vision was 7.3 per cent in white Australian male subjects, 1.9 per cent in aboriginal male subjects and 3.2 per cent in half castes. Native races, therefore, appear to have a better color vision than the white population of Australasia. The only exceptions were noted in some isolated islands where reports of a high incidence of defective color vision may have been due to inbreeding.

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Some Medical Aspects of the Social Security Disability Insurance Program

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SINCE THE INDIVIDUAL physician is the key man in any disability determination, it might serve a useful purpose and promote a better understanding of the program if I were to give you a few definitions and concepts of disability in relation to the Social Security Act.

The law says an individual is under a disability if he is blind or unable to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment. The impairment must be one that can be expected to be of long continued and indefinite duration, or to result in death.

An applicant is unable to engage in any substantial gainful activity if he is incapable of performing substantial service with reasonable regularity in any employment or self-employment, by reason of an impairment sufficiently severe to be the cause of inability to work. An individual who is unemployed by reason of economic conditions, unavailability of jobs, or unwillingness to work is not disabled by reason of his impairment. Factors unrelated to the employment capacity of the applicant which limit his availability for the labor market usually will not be relevant to a determination of disability. Family responsibilities, widespread unemployment, housing, etc., are examples of such factors. Inability to engage in substantial gainful activity must result from the impairment and its effect on the applicant's employability and not from other causes.

The law requires that the physical or medical impairment, which results in an inability to engage in any substantial gainful activity, be a medically determinable impairment. This means that the condition should be one that can be determined by a physician. It is the expressed intent of Congress that a finding of disability be based on medical facts, particularly those aspects of the determination that relate to the nature, extent and curability of the impairment.

A physical or mental impairment must be one that can be expected to be of "long-continued and indefinite duration," or that can be expected to result in death, and applied to a condition that has lasted at least six months and for which no approximate date of improvement or recovery in the future can be determined with reasonable certainty. This requirement relates only to the impairment and not to the effect of the impairment on the applicant's employability. In fact, it is hoped that a significant number of persons under a disability will be restored to employability by a relative short period of rehabilitation services.

The Senate report on the disability amendments states "an individual would not meet the definition of 'disability' if he can, by reasonable effort and with safety to himself, achieve recovery or substantial reduction of the symptoms of his condition." Impairments falling within this intent are called "remedial conditions" and diabetes, hypothyroidism, cholelithiasis, fractures, and cataracts would ordinarily be examples of a few of the conditions falling within this category.

Over 14,000 applications for disability benefits have been filed to date in Michigan, and they are presently coming in at the rate of about 1,200 a month. Good adjudication in the light of the foregoing concepts is of tremendous importance in protecting the integrity of the insurance fund and our economy, as well as being fair to the applicant. The understanding and co-operation of the medical profession is most necessary in maintaining determinations on a sound professional basis and in continuing to operate through the agency of physicians in the private practice of medicine.

Read at the Third Postgraduate Seminar in Physical Medicine and Rehabilitation, Bay City, Michigan, October 9, 1957.

Dr. Hanna is Review Physician for the Disability Determination Section, Office of Vocational Rehabilitation, Lansing, Michigan.

Wayne State University College of Medicine

Seventh Annual Symposium on Blood

January 17-18, 1958

CORRECTION OF DEFECTS IN EDTA BLOOD MAGNESIUM AND OTHER DIVALENT CATIONS

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Blood collected with disodium ethylenediamenetetraacetate as anticoagulant differs in the following respects from native, oxalated or citrated blood. It exibits a long thrombin clotting time, very rapid disappearance of factor V, no adhesion of platelets to each other or to glass, conversion of the platelets to spheres from their normal disc shape, and no retraction of clots formed by thrombin in the presence of platelets. But if $MgCl_2$ is added to fresh Na_2EDTA, platelet-rich plasma, or if MgEDTA is used as an anticoagulant instead of Na_2EDTA, these abnormalities are not seen. The addition of $MgCl_2$ to incubated EDTA platelet-rich plasma will restore the thrombin clotting time but will not increase the factor V concentration. The concentration of magnesium required to accomplish these changes is calculated to be a fraction of a millimole per liter less than one-tenth the concentration of calcium necessary to produce a normal clotting time. Similar small quantities of calcium, barium and strontium can correct the abnormalities of Na_2EDTA blood as well as can magnesium. However, the effect of calcium and perhaps of strontium may be attributed to liberation of magnesium from its EDTA complex. Since barium and strontium are not normally present in appreciable quantities in blood, it is suggested that magnesium may play an important role in the maintenance of a normal thrombin clotting time, factor V stability, platelet disc shape, platelet agglutinability and adhesiveness to glass, and clot retraction.

CLOT RETRACTION, A BRIEF LITERATURE SURVEY

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For a normal development of the clot-retraction phenomena, fibrinogen, thrombin, platelets and calcium ions are necessary. But for some years it is supposed that also some plasma or serum factor(s) is also involved. Some factor(s) concerned with clot retraction can be adsorbed from plasma with barium salts and eluted. From this eluate it is not only possible to isolate a fraction promoting clot retraction but also others which have an inhibiting power on the same process.

An efficient dialysis of plasma produces a deficiency in clot retraction when platelets, thrombin and calcium ions are present and the addition of the dialysate to the dialysed plasma restores the contractile capacity. The function of the dialysate is relative to the glucose content but as the addition of glucose in different concentrations induces in the plasma only a partial or delayed retraction, it has to be assumed that unknown factors are present in the dialysate and probably are necessary for the utilization of glucose in the plasma-platelet system during the clot retraction process.

The important role of platelets has also been analyzed. Aging, storage, ultrasonic treatment are retarders of the favorable action of platelets on the clot retraction. But the possibility of extracting a hypothetical active principle(s) from the platelets in this process is still under consideration. The retractile property is said to be present only in the hyalomere. A lipid substance ("retractin") of platelet extracts is reported to be able to promote clot retraction. The dialysis of platelets induces the loss of platelet contractile property. In this dialysate the platelet vasoconstrictor factor (serotonin, 5-hydroxytryptamine) is present and in some particular experimental conditions it seems to exercise an influence on the retraction process. But the restored platelet system (dialyzed platelets + platelet dialysate, or dialysed platelets + serotonin) seems unable to duplicate the total influence manifested by whole platelets.

To conclude, it seems that for a normal development of clot retraction process the interreaction of platelets with various plasmatic factors (of which one is dialysable—probably represented by glucose—and another is of protein nature) is necessary. This interreaction is only possible in the presence of viable and structurally intact platelets whereas the characterization of a hypothetical platelet component responsible for this function has not yet come to a definitive phase.

Held at the Auditorium, Wayne College of Medicine, 645 Mullett Street, Detroit. The organizing committee consisted of Walter H. Seegers, Elwood A. Sharp and Paul Halick.

ANTI-Ac-G: A SPECIFIC CIRCULATING INHIBITOR OF THE LABILE CLOTTING FACTOR

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A bleeding tendency (hematuria and ecchymoses) acquired by an elderly white farmer, Y, following removal of a septic gall bladder, was shown to be due to a circulating anticoagulant with the peculiar property of acting specifically against AcG, the labile factor (V) of the blood-clotting system. Other possibilities were ruled out in an extensive series of tests. AcG of human, bovine, or canine origin was inhibited but, in sufficient amount, gave considerable correction of the defect, *in vitro*. Because of the very potent anti-AcG and consequent hypoproaccelerinemia (AcG assay: 1 per cent), the following test anomalies occurred: (1) prolonged clotting time of whole blood and of recalcified plasma; (2) long prothrombin time (Quick test), exaggerated by dilutions of thromboplastin, but improved by adding AcG; (3) long partial thromboplastin time (using brain cephalin); (4) abnormal thromboplastin generation; (5) deficient prothrombin consumption.

Assay for anti-AcG was from reduction in activity of a standard AcG ($BaCO_3$-treated beef serum) on addition of dilutions of patient's plasma or serum, and testing on *aged* human plasma. A titer of about 1:200 was found in both plasma and serum. No incubation period was needed for the full inhibitor effect. The inhibitor was well preserved even at room temperature and thermolabile only at about 70° C. It resisted pH change, between 5 and 10, and was unaffected by ether and benzene. It was nondialyzable, not adsorbed on $BaSO_4$, and accompanied the globulin fraction precipitated between 25 and 33 per cent saturation with $(NH_4)_2SO_4$. While the inhibitor was present, electrophoretic analysis of serum by both the paper and moving-boundary techniques agreed in showing an increase in α_2=and possibly α_1=globulin, perhaps at the expense of the β=globulin, the γ=globulin and albumin remaining normal. The A/G ratio was reversed, 0.85, on the second occasion. A month later, the pattern was normal and the anti-AcG no longer demonstrable, thus cancelling plans for an attempt at chromatographic separation. The plasma AcG was recovering, to 45 and 63 per cent of normal, on two successive days at the time of this last electrophoretic study. All tests were normal subsequently.

In the presence of the anti-AcG, using Y's plasma as substrate, thromboplastin generation tests with brain lipid, normal $Al(OH)_3$ plasma, and normal aged serum were abnormal, unlike similar tests in which aged normal plasma or plasma from a congenital AcG-deficient case were used as substrates.

Not only do the tests diagnose a unique case of clotting disorder with hemorrhagic tendency, namely, hypoproaccelerinemia due to a circulating anti-AcG, but they also add some new evidence concerning the role of AcG in clotting systems. All tests which require AcG will fail of their special purpose if this factor is not present in sufficient amounts. Its lack may indeed be imposed on such systems when the presence of a powerful anti-AcG, as in Y's plasma or serum, inhibits the AcG that is knowingly supplied. Only by adding enough AcG was it possible to perform AHF and PTC assays, or to rule out the antithromboplastin possibility, et cetera. Y's plasma failed to correct such deficient plasmas as AHF-, PTC-, Stuart-, and others, solely for the reason stated. The thromboplastin generation tests proved that AcG is normally required *both* for the plasma thromboplastin generation *and* for the activation of prothrombin to thrombin. This last was demonstrable for the first time with the significant use of Y's plasma as substrate in the T.G. tests, above. It confirms previous evidence that thrombin formation is prevented in artificial systems of calcium, *tissue* thromboplastin, prothrombin and proconvertin, when all AcG is inactivated by boiling the reagents. The data, therefore, suggest that very careful consideration of the labile (AcG) factor be given in all types of testing for the coagulative function of the blood.

CORRECTION OF DEFECTS IN CLOTTING ACCELERATOR FACTORS BY ADMINISTRATION OF METHIONINE AND VITAMIN K AND A NEW SULFHYDRYL-SUBSTITUTED METHYLNAPHTHOQUINONE, VITAMIN K-S(II)

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Relevant to continued investigations on the role of sulfur-containing linkages in blood coagulation, a related series of studies has resulted in the experimental and therapeutic trial of a sulfhydryl-substituted vitamin K compound, designated vitamin K-S(II). The preparation of this compound was based upon and preceded by experimental and clinical investigations which had demonstrated that accelerator activity is influenced greatly by the concomitant administration of DL-methionine and vitamin K. Because of this synergistic effect, vitamin K-S(II) was designed to incorporate both sulfur and propionic acid, a carbon chain product of methionine degradation, into the vitamin K molecule in the 3-position. The administration of vitamin K-S(II), like that of DL-methionine plus vitamin K, is capable of exerting a striking in-

fluence on accelerator factors. As evidence of this, selected animal experiments and two patients, critically ill with severe hemorrhagic disorders, will be presented.

More specifically, administration of DL-methionine to normal dogs effected a consistent but mild elevation of accelerator levels, but DL-methionine plus vitamin K always evoked an even greater response. These two compounds, when administered separately to cholecystnephrostomized dogs, resulted in a moderate rise of accelerator levels; when given concomitantly, hypernormal levels were achieved. Accelerator levels in these dogs on protein-free and methionine-free diets became almost negligible. With the addition of DL-methionine to the diets, levels returned to normal on the former and gradually increased on the latter. A similar quantitative response was observed in normal dogs on the methionine-free diet. In partially hepatectomized rats, the rate of recovery of accelerator activity was decidedly faster on methionine-supplemented diets than on the stock or menadionine-supplemented diet. The accelerator response to vitamin K-S(II) in these experimental subjects was comparable to that produced by the concomitant administration of DL-methionine and vitamin K.

Two patients with severe hemorrhagic diatheses, associated with deficiencies of accelerator factors, were treated with vitamin K-S(II). Accelerator levels returned to normal and hemorrhagic manifestations disappeared completely on this therapy. In one of the patients, studied over a seven-year period, DL-methionine and vitamin K, administered concomitantly, repeatedly exerted a corrective effect on accelerator levels, whereas fresh and banked blood and massive doses of vitamins K and K_1 had no effect.

In contrast to the effect of vitamin K-S(II) on accelerator activity, that on prothrombin was negligible except in vitamin K deficiency states.

TIME AND DOSAGE STUDIES OF THE REVERSAL OF MYLERAN AND RADIATION-INDUCED BONE MARROW HYPOPLASIA IN RATS BY HOMOLOGOUS MARROW CELL INJECTIONS

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The reversal of irradiation damage in rodents by injection of isologous or homologous bone marrow cells has been widely studied. As we have previously reported (J. K. Weston et al., Fed. Proc., 16:377, 1957), intravenous injection of Myleran (1,4-dimethane sulfonoxy butane) at the level of 20 mg./kg. produces a severely hypoplastic marrow in rats, and this chemically-induced hypoplasia can also be reversed to a considerable extent by intravenous administration of suspensions of homologous marrow cells. In order to gain deeper insight concerning the mechanism of marrow regeneration, we have now made further studies of this phenomenon involving comparisons of Myleran and irradiation (Co^{60}) damage.

In general, our studies have been limited to a period of fourteen days following insult to the marrow. This relatively short period of time was chosen for practical reasons (oriented toward a screening procedure in the search for other treatments) and also because the earliest phases of regeneration might be of the greatest interest. At the time of sacrifice, marrow is removed from long bones and the following data obtained for each rat (usually ten rats per group): (1) total nucleated cell concentration, (2) concentrations of ribo- and deoxyribonucleic acids, and (3) differential smear counts. The present report will be concerned almost entirely with conclusions based on the first two criteria, since the large number of animals involved has precluded a full consideration of the smear studies at this time.

The over-all picture was similar in several respects following either 20 mg./kg. of Myleran or 800 r. whole body irradiation. Without treatment, irradiation caused a more rapid drop in levels of nucleated cells, RNA and DNA, and there was greater day-to-day fluctuation; in both cases there was heavy mortality (ca. 90 per cent by day fourteen), mostly during the second week following Myleran, frequently beginning during the first week after irradiation. Following either insult, comparable regeneration and reduction in mortality by day fourteen was obtained from a dose of $125X10^6$ homologous nucleated marrow cells per rat given on day one, two, three, four, or five. Lesser effects were obtained by this treatment on day six or seven, and no effect was apparent from treatment on day eight, nine, or ten. When treatment was on day five after Myleran insult, there was no change in the marrow on day six, seven, or eight, but a consistent improvement began on day nine and continued through day fourteen; this improvement did not begin until day ten in the irradiated animals. Given on day five $100X10^6$ cells produced as much recovery by day fourteen as $125X10^6$ cells; fifty or $75X10^6$ cells produced intermediate effects; and significant increases could be detected with doses as low as fifteen or $25X10^6$ cells. The mortality experience in general was in harmony with changes in the levels of nucleated cells and nucleic acids; however, the lower doses of cells were more effective in reducing mortality from Myleran than from irradiation. This observation may be related to a higher incidence of adventitious infections following the more extensive depression of defense mechanisms by irradiation; in support of this notion, it has been found that antibiotic treatment may greatly increase survival with minimal improvement in the condition of the marrow.

While the nucleated cell and nucleic acid levels have been discussed as a unit, and they do increase or decrease in parallel on the whole, there have been many curious divergencies in individual cases. These divergencies may be related to fluctuations in the distribution of cell types as the marrow deteriorates or undergoes regeneration. This aspect of the problem will be considered in the light of available differential count studies. This work was done under AEC contract No. AT(11-1)-334.

CONTROL OF ERYTHROPOIESIS

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During our investigations of erythropoietin and the conditions that alter its production, we have accumulated data that appear to clarify (1) the role of erythropoietin in maintaining the dynamic equilibrium of the erythron and (2) the basic conditions that regulate the reaction.

Four conditions that are characterized by a profound reduction in erythropoiesis are transfusion-induced polycythemia, hyperoxia, acute starvation, and the one following hypophysectomy.

The administration of as little as a single 2 cc. injection of anemic plasma, prepared by our standardized procedure, to these animals brings about a significant response in terms of an increase in the number of reticulocytes and the incorporation of Fe^{59} into the red cells.

The rapid reduction in erythropoiesis that follows hypophysectomy is thought to be the result of an over-all metabolic reduction that occurs very soon after the pituitary is removed. As a result, the demand for oxygen by the tissues declines but the supply of oxygen remains normal because the red cell mass at this time has not yet fallen appreciably. Since the demand for oxygen is reduced and the supply is normal, the production of erythropoietin is reduced drastically, and, consequently, erythropoiesis is reduced.

Transfusion-induced polycythemia in mice suppresses erythropoiesis to the degree that no evidence of red cell production can be found by Fe^{59} uptake studies, reticulocyte counts, or histologic examination of the blood-forming tissue. The sensitivity to anemic plasma of these polycythemic animals is comparable to hypophysectomized rats. Similarly, the effect of normal plasma is slight but significant in polycythemic mice after six or more 0.5 cc. injections.

In these transfusion-induced polycythemic animals, the oxygen supply is increased but the demand is normal. Hence, the production of erythropoietin is reduced, and, as a result, erythropoiesis is, for all practical purposes halted.

Hyperoxia also reduces erythropoiesis in rats. Hyperoxic animals respond markedly to anemic plasma. The mechanism is considered to be comparable to that of transfusion-induced polycythemia.

Starvation in rats is another condition that results in decreased erythropoiesis. A rapid reduction in metabolism is known to occur in animals subjected to acute starvation (Morgulis, S.: Fasting and Undernutrition. New York: H. P. Dutton and Co., 1923). We consider such an animal to be comparable to the hypophysectomized rat in that its oxygen demand is reduced and its oxygen supply is normal, and, as a result, the production of erythropoietin falls. It is interesting in this connection that chronic protein depletion reduces erythropoiesis in rats within two weeks. These protein-depleted animals respond to anemic plasma in a manner more or less comparable to that of acutely starved rats.

Experimentally-induced conditions that bring about a profound increase in erythropoiesis are bleeding and the administration of phenylhydrazine. Plasma from animals that have been bled or treated with phenylhydrazine is rich in erythropoietin as can be shown by assaying it in hypophysectomized rats, polycythemic mice, or normal rats.

Bleeding and phenylhydrazine-induced anemia represent (through red cell loss by withdrawal or hemolysis, respectively) a situation in which the supply of oxygen is decreased but the demand remains within normal limits. Metabolic stimulants (dinitrophenol and triiodothyronine) increase the rate of erythropoiesis in normal rats as measured by incorporation of Fe^{59} into red cells. Rats treated with dinitrophenol or triiodothyronine would be expected to increase their metabolic requirement for oxygen without an immediate compensatory increase in the supply of oxygen. Thus, the oxygen supply and demand relationship appears to be responsible for an increase or decrease in the production of erythropoietin in maintaining the dynamic equilibrium of the erythron.

We have found that as early as six to twelve hours after an intramuscular injection of 4.5 mg. of cobaltous ion, the erythropoietin content of the plasma of rats is approximately equal to that observed in the plasma of animals subjected to the means we use routinely (bleeding or phenylhydrazine) for producing active anemic plasma. The plasma from the animals treated with cobaltous chloride affects the normal animal, hypophysectomized rat, and starved rat in a way that is comparable to that observed after the injection of anemic plasma.

Finally, we have accumulated evidence suggesting that the kidney may be a site of erythropoietin production. Hypophysectomized, gonadectomized, thyroidectomized, and splenectomized rats retain the capacity to increase erythropoietin production in response to repeated bleeding. This response is also seen within twelve hours after stimulation with cobalt or a single massive hemorrhage in rats from which the thymus; the stomach, intes-

tines, spleen, and pancreas, or 90 per cent of the liver has been removed. Removal of both kidneys from rats and rabbits causes them to be incapable of response. The production of erythropoietin is reduced but not eliminated in rats during the first twenty-four hours after both ureters have been tied off.

THE SIGNIFICANCE OF THE MINOR CROSS-MATCH

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There is considerable disagreement among blood bank directors concerning the significance of the minor cross-match, i.e., reaction between the donor serum or plasma and the recipient red cells. Some believe it to be essential while others state that it is a waste of time.

Medical literature of the last ten years contains only two reports of hemolytic reactions resulting from atypical donor antibodies aside from those of the ABO groups. A survey of eighteen blood bank directors in various parts of the world has revealed that twelve of them routinely employ the test while the other six do not.

In an effort to learn of the clinical effects caused by atypical donor antibodies, transfusions of plasma were given which contained various Rh antibodies antagonistic to recipient erythrocytes. The laboratory and clinical observations have indicated that anti-Rh_0 (anti-D) is capable of causing significant hemolysis of recipient cells, but that in none of the patients examined did there develop any signs of renal impairment or the clinical syndrome that sometimes follows the transfusion of incompatible blood.

It is not essential to routinely employ the minor cross-match, but we recommend the use of an effective screen of the serum of all Rh-negative donors in order to avoid this undesirable transfusion effect.

APPARATUS AND PROCEDURE FOR DETERMINATION OF THE RELATIVE PLATELET AND LEUKOCYTE VOLUMES IN BLOOD

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The use of hematocrit values for erythrocytes as a check on or as a substitute for erythrocyte counts has come into wide use with the availability of relatively quick and convenient microhematocrit apparatus and methods. The extension of this procedure to measure similar volumes (in terms of per cent of whole blood) for platelets and leukocytes requires a convenient technique for separation of the platelets and leukocytes in order to measure each volume independently and requires a higher precision in reading the volumes since these volumes may be 0.1 per cent or even less. In the method which has been developed, a standard 75 mm. microhematocrit tube is used. After loading with the blood sample and flame sealing, the tube is spun in a special slow speed centrifuge to settle the erythrocytes and leukocytes but not settle the platelets. The upper end of the tube is then flame sealed and the microhematocrit tube broken above the settled cells. The two separate parts of the tube are then centrifuged at high speed to pack platelets, leukocytes and erythrocytes. The five measurements necessary for determination of platelet, leukocyte and erythrocyte volumes are then made on a special precision microhematocrit tube reader. With this reader, the microhematocrit tube is observed with a low-power monocular microscope and all settings are made sequentially at a single eyepiece reticle line. Special scales and a computer board section are part of the instrument to minimize the amount of arithmetic required in the determination of platelet, leukocyte and erythrocyte volumes.

THROMBOPLASTIN: NOMENCLATURE AND PREPARATION OF PROTEIN-FREE MATERIAL DIFFERENT FROM PLATELET FACTOR 3 OR LIPID ACTIVATOR

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A method was developed for obtaining a highly active fraction from rabbit brain tissue which meets all of the requirements of a complete thromboplastin in the "traditional" sense. This lipid fraction contains no protein. It is a complex consisting of sterol, glutamic acid, serine, ethanolamine, and probably sphingosine. These components are also found in lipid activator and in the lipid portion of purified platelet factor 3, the latter being a lipoprotein. It is lethal upon intravenous injection in suitable quantity, while purified platelet factor 3 and/or lipid activator are not. When the brain thromboplastin is combined with Ac-globulin and calcium ions, purified prothrombin changes to thrombin, but such change to thrombin does not occur with purified platelet factor 3 or lipid activator. It is very active in one-stage prothrombin time tests. Heating this lipid fraction at 100° C. for thirty minutes or refluxing it with ether for ninety minutes impairs only very little of its activity but refluxing with alcohol for ninety minutes destroys its activity. However, then the material can still function as a procoagulant. The material we have isolated is called *brain thromboplastin*. The word "thromboplastin" apparently now is utilized in all kinds of ways so that the

meaning is diluted extensively and the narrowest boundaries include all materials that in some way promote the coagulation of blood. We use the term more specifically and thereby attempt to rescue a valuable word instead of inventing new terms to fulfill an existing need. The words lung thromboplastin, beef lung extract thromboplastin, brain extract thromboplastin, and lipid activator are used in terms of carefully considered descriptions.

ASSAY OF PLASMA THROMBOPLASTIN ANTECEDENT (PTA) WITH PURIFIED CLOTTING COMPONENTS

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Plasma Thromboplastin Antecedent (PTA)[3] is known as a coagulation factor different from Antihemophilic Globulin (AHG) and Plasma Thromboplastin Component (PTC)[4], a deficiency of which results in prolonged clotting times and incomplete consumption of prothrombin. Until now PTA has not been shown to have any role in the Thromboplastin Generation Test (TG Test)[2], although this test has proven useful clinically in determining deficiencies of platelet factor (P-F), AHG and PTC.

The work reported here shows that PTA participates in the TG Test and that a deficiency of PTA can be detected by the test. Conditions are described for the assay of PTA or other clotting factors and some of the properties of PTA are discussed. The requirement for PTA is best demonstrated by using purified components. When barium sulfate-adsorbed normal plasma is replaced with purified AHG and accelerator globulin (AcG), and platelets are replaced by the lipid platelet-substitute of Bell and Alton[1], thromboplastin generation is abnormal with sera deficient in either PTC or PTA. A purified source of PTC will not substitute for normal serum in this system until a source of PTA is also added (barium sulfate-adsorbed normal serum or purified PTA).

When purified reagents are used throughout, the test system is dependent upon the presence of each of the components (platelet-substitute, AHG, AcG, PTC, PTA) and the curves obtained may be related to their concentrations. It is possible therefore to assay any one of the factors by using it in limiting concentrations while maintaining optimal amounts of the others.

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STUDIES ON THE RELATION BETWEEN THE FIBRINOLYTIC ACTIVITY OF HUMAN BLOOD AND THE URINARY EXCRETION OF PLASMINOGEN ACTIVATOR (UROKINASE)

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It was observed that during cardiac surgery with pump oxygenator marked fibrinolysis can develop during the perfusion period. In such cases the urine was devoid of urokinase activity in the first few postoperative days. This prompted studies on the relation between fibrinolytic activity of the blood and urokinase excretion.

For the studies, the euglobulin lysis test which can be applied in heparinized blood (K. N. von Kaulla and R. L. Schultz: Am. J. Clin. Path, in press) and a new quantitative determination of urokinase excretion based on the activation of human plasminogen by human urine in the cold (K. N. von Kaulla and C. Taylor: Fed. Proc., 16:342, 1957) were used. The essential steps for urokinase determinations are as follows. Mixtures of one ml. plasma each with 0, 1, 2, 3, 4, 5, and 10 ml. urine each diluted to 20 cc. with water, are subjected to rotation dialysis in cellophane tubing 8/32" I.D. against running tap water at 4° C. for ninety minutes. The activated fibrinolytic euglobulins are precipitated from the individual dialysates with carbon dioxide, separated by centrifugation, dissolved in 1 ml. 1/15 M phosphate buffer, pH 7.4, and added to 4 ml. purified casein, 1 per cent in phosphate buffer. After incubation for ninety minutes, the liberated tyrosine is determined. With normal urines, a characteristic activation curve results showing increased tyrosine release with greater proportions of urine. The curve begins to level off with 3 ml. urine and becomes flat with 4 or 5 ml. urine, since with the latter amounts all plasminogen in the plasma sample has been activated under the conditions of the experiment. Addition of purified urokinase (K. N. von Kaulla: Acta haematol., 16:315, 1956) does not bring about further activation. Inhibitors of plasminogen activation or of plasmin are not contributing to the results of the test.

The results showed that activator excretion preoperatively was normal. High values appeared immediately before or during the phase of maximal lysis. After fibrinolysis had subsided the values dropped within hours and subsequently the activator disappeared completely from the urine for one to several days, then gradually returned to control levels. The plasma euglobulin lysis time was normal during the non-excretory period. Complete absence of activator excretion was also observed in repeated tests with cancer of the bladder and penis and in early myocardial infarction. Normal excretion occurred in cystitis, pyelonephritis, bronchitis and other diseases. In all cases, plasma euglobulin lysis time was normal.

Studies are under way to elucidate further the biological significance of the urinary excretion of plasminogen activator and its relation to fibrinolytic components of the blood.

PURIFIED PHOSPHOLIPID ANTITHROMBOPLASTIN: STUDIES OF MECHANISM OF ACTION
(Preliminary Report)

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The effects *in vitro* of purified phospholipid antithromboplastin (P.A.) on various clotting factors were studied. P.A. was prepared as previously reported (Am. J. Physiol., 190:8, 1957) and solubilized with sodium desoxycholate in buffered saline solution (pH 7.4). Control clotting determinations incorporating sodium desoxycholate disclosed that this salt had no effect on these tests at the highest concentration (2 mg./ml.) employed. Increasing concentrations of P.A. result in progressive inhibition of the clotting of non-activated as well as activated normal human plasma. There was no loss in activity of bovine thrombin or fibrinogen incubated for as long as thirty minutes with concentrations of P.A. of 2 mg./ml. or less. Prothrombin activity (two stage method) was reduced to 75 per cent of the control value when P.A. was added to defibrinated normal human plasma at a concentration of 2 mg./ml.; concentrations of 1 mg./ml. or less had no effect. No effect on Ac-globulin activity, (two stage technique) was noted when mixtures of P.A. and plasma were incubated for thirty minutes. Addition of P.A. reduced the rate and amount of thromboplastic activity as tested in the Thromboplastin Generation System. Increasing the concentration of "alumina plasma" in the mixture increased the amount but did not alter the rate of thromboplastin formed. Increasing the concentration of serum restored the thromboplastic activity to normal with respect to both rate of formation and quantity generated. When increasing concentrations of P.A. were added to the Thromboplastin Generation Test mixture *after* maximum activity had developed, a progressive depression of thromboplastic activity resulted.

THE ROLE OF PLASMA ACCELERATOR-GLOBULIN AND ITS THROMBIN ACTIVATED FORM, SERUM ACCELERATOR-GLOBULIN, IN THE CONVERSION OF PROTHROMBIN

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The mode of action of plasma accelerator-globulin (PAcG) and its thrombin-activated form, serum accelerator-globulin (SAcG), in the conversion of prothrombin to thrombin was studied by employing a 3-stage interaction technique. In the first stage, either all or certain of the factors thought to react prior to prothrombin conversion were mixed in specified amounts. These factors were proconvertin and/or plasma, thromboplastin component as supplied by a purified preparation from a $BaSO_4$-eluate of aged rabbit serum (serum-eluate), antihemophilic factor (AHF), PAcG or SAcG, acetone dried platelets as a source of platelet factor 3, calicum chloride, and with added thrombin in some experiments.

Either PAcG or SAcG must be present in order to obtain complete conversion of prothrombin in the presence of serum-eluate factor(s) (proconvertin or plasma thromboplastin component or both), platelet factor 3, AHF, and calcium ions. If PAcG is present, it must first be converted to SAcG by the action of thrombin before a maximal prothrombin conversion rate is attained. SAcG does neither affect the degree nor the rate of interaction of serum-eluate factor(s), AHF, platelet factor 3 and calcium ions forming a prothrombin-conversion factor. It was found that the rate of thrombin formation was the same irrespective of whether SAcG was present in stage-1 or stage-2 It appears, therefore, that SAcG affects thrombin formation at a phase just prior to or during the conversion of prothrombin. If SAcG does become a component part of a single prothrombin-conversion factor, as has been suggested by some investigators, then the data obtained would indicate that this interaction must occur at a very rapid rate. The present data are also in agreement with the concept of Seegers (Alkjaersig, N., and Seegers, W. H.: Am. J. Physiol., 182:347, 1955) that SAcG accelerates the conversion of prothrombin to thrombin by a prothrombin-conversion factor.

Inasmuch as traces of thrombin will in the presence of PAcG greatly enhance the rate of prothrombin conversion by a prothrombin-conversion factor, a proper evaluation of a thromboplastin generation test should take into account the pos-

sible presence of trace amounts of thrombin derived from prothrombin in the serum or $BaSO_4$-treated plasma employed.

THROMBOPLASTIN GENERATION AS A TEST OF LIVER FUNCTION

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By means of the thromboplastin generation test, previous investigators have demonstrated a serum defect occurring in certain patients on therapy with coumarin drugs or with liver disease. This defect was demonstrable in the presence of normal prothrombin levels, and was considered to result from depression of a clotting factor—named factor X. Subsequent studies have suggested that factor X may be identical to Stuart factor. In the present study, an attempt has been made to apply these findings in the development of a liver function test.

Three groups of subjects were studied as follows: (1) Patients with known liver disease on the basis of deranged liver function tests or histological evidence. (2) Patients with suspected liver disease in whom function tests were normal but the diagnosis was suggested by hepatomegaly, previous hepatitis, or other clinical data. (3) Patients with neither clinical nor laboratory findings suggestive of liver disease.

The majority of patients in group 1 and an appreciable proportion of patients in group 2 gave an abnormal serum curve in the thromboplastin generation test. Few patients gave evidence of reduced prothrombin either by the Quick or Ware and Stragnell techniques. The abnormal sera corrected the clotting defect in PTC-deficient serum, but they were defective in their ability to improve thromboplastin generation in stored serum. The defect thus corresponds to that described for factor X deficiency. Autopsy performed on several of the patients in group 2 confirmed the presence of liver disease indicated by the abnormal serum. No abnormality was found in the group 3 patients.

The findings suggest that the thromboplastin generation test may be a more sensitive liver function test than any currently in use. However, the test must be interpreted with caution, since it is sensitive to any situation in which vitamin K metabolism is disturbed.

A NEW APPROACH TO THE THROMBOCYTOPATHIES (THROMBOCYTOPATHY A)

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Fifteen patients with a hemorrhagic diathesis exhibited prolonged bleeding times as the only *in vivo* abnormality and short prothrombin consumption times as the only *in vitro* abnormality. The serum exhibiting the abnormally short prothrombin time unlike hemophilia and similar to thrombocytopenia contained as little prothrombin as normal serum, about 25 units per milliliter. This phenomenon suggested a dysfunction of platelets; and, since platelet factor 3 is the principle activity of platelets known to be involved in the formation of thrombin and probably concerned with the prothrombin consumption time, a study of the function of platelet factor 3 in these patients was undertaken.

About 200 ml. of blood were drawn from each patient and the platelets were collected by differential centrifugation and washed. Platelet counts were carried out on suspensions of normal and patients' platelets and by dilution equal numbers of platelets in the suspensions were obtained and the products were frozen.

The platelet factor 3 activity of these platelet suspensions was assayed by the method of Alkjaersig, Abe, and Seegers involving quantitative activation of purified prothrombin. The patients platelet extracts activated very little prothrombin, about 100 units, while the normal activated about 800 units per milliliter. Morphological studies of these platelets using the electron microscope suggested that faulty liberation other than content could be responsible for the apparent lack of activity. After treatment with ultrasonic oscillations, the patient's platelet extracts which previously had activated very little prothrombin converted the same amount as normal platelet extracts. The results of these observations suggest the designation of Thrombocytopathy A to this bleeding disorder.

THE PHYSICAL CHANGES OF PROTHROMBIN UNDER VARIOUS EXPERIMENTAL CONDITIONS

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Using the purified prothrombin preparations of Seegers and co-workers, we previously determined a molecular weight of 68,000 and observed that the samples exhibited physical homogeniety. The prothrombin molecule appeared as a unit having an axial ratio of ~3.7 and a length of 119Å. At the same time, our brief examination of thrombin, which had been obtained by several methods of activation including treatment with concentrated potassium citrate, suggested that prothrombin could undergo a number of molecular changes some of which have a bearing on the objects of molecularity and activation.

Inherent prothrombin instability is demonstrated by dilution with saline for below 0.1 per cent protein, a dissociation into subunits of M ~34,000 takes place. Since dilute prothrombin may be

activated, we must suppose that this dissociation is reversible. At concentrations near 0.5 to 1 per cent and ionic strength 0.15, a similar dissociation may be effected at pH 5 by phthalate ion. At pH 2.0, fragmentation occurs for a unit of S~2 appears, while the remaining material aggregates.

Alterations in internal structure, without dissociation or fragmentation, take place at pH 11.9 as shown by measurements of sedimentation constant and optical rotation.

In the presence of a high concentration of citrate ions, prothrombin spontaneously activates to yield thrombin. A consideration of the activation curves suggests that two processes are at work: One is the autocatalytic activation reaction previously described by Seegers, the other being a progressive inactivation of the thrombin formed. The changes of the sedimentation constant of prothrombin at various citrate concentrations show that activation requires a dissociation of prothrombin into its two subunits with a subsequent unfolding of these.

If, instead of examining prothrombin in the presence of concentrated citrate, the solution is diluted with water to a concentration of 2.5 per cent citrate (conditions under which the activation curves are recorded) a different picture emerges. The small fragment previously observed after heat and acid denaturation is now always present together with the subunits expected after removing a fragment of S~2 from a half molecule of M~34,000.

Combining physical and chemical data we suggest that the true molecular weight of prothrombin and of thrombin are much smaller than the values presently accepted and that both proteins, and particularly thrombin, can exist in a variety of forms involving the interaction of a fundamental thrombin molecule with itself and with a variety of fragments.

ON THE MODE OF ACTION OF THROMBIN

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When thrombin clots bovine fibrinogen it splits off two peptides from the fibrinogen molecule. The C-terminal amino acids in both peptides are identified in this laboratory as arginine. Since excess glycine a-amino groups appear on fibrin, thrombin must be assumed to split arginine-glycine bonds when it removes the peptides. The action of thrombin is thus similar to trypsin but its action is restricted to the two arg-gly bonds in fibrinogen. This restricted specificity is probably determined either by the amino acids in the immediate neighborhood of the two peptide bonds split, or in the structure of the thrombin active center.

One mole of thrombin (Mw = 15,000) reacts with one mole of diisopropyl phosphorofluoridate (DFP). As in the case of trypsin and chymotrypsin DFP can react with only one of the serine residues in the thrombin molecules. Thus, only one of the six serines in the thrombin molecule can be converted to diisopropylphosphoryl serine when DFP inhibits thrombin activity.

Whether serine is part of the active center of the thrombin or it is only in the immediate neighborhood of it, requires further investigation. These aspects of the thrombin-action will be discussed.

FURTHER STUDIES ON THE PURIFICATION OF THROMBIN

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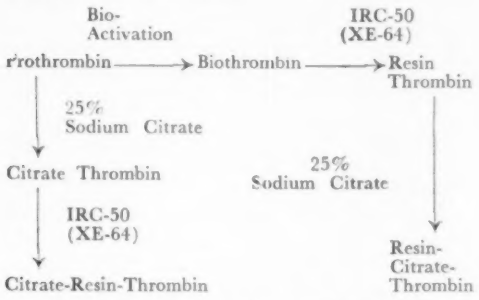
Purified prothrombin (Seegers, *Record Chem. Process 13,* 143 (1953)) can be converted to biothrombin in several ways, thrombin being the activator. In the ultracentrifuge biothrombin sediments at about the same rate as prothrombin (Lamy and Waugh: Physiol. Rev. 34:722, 1954; Seegers and Alkjaersig: Arch. Biochem. Biophys., 61:1, 1956), but on electrophoresis the properties of the two are quite different. According to Miller (Conference on Blood Cells and Plasma Proteins, Albany, 1957) biothrombin separates on the amberlite IRC-50 (XE-64) column (Rasmussen: Biochem. et Biophys. Acta, 16:157, 1955) to yield resin thrombin. This thrombin we have prepared free of salts and Robert Shepard finds it to be homogenous material upon analysis with an ultracentrifuge. Four successive preparations yielded an average activity of 4,100 units/mg. dry weight (4200-3900-4270-4030). A second adsorption and elution, or chromatography at constant pH did not increase or lower the specific activity. The activity for purified phothrombin is about 2,000 units/mg. dry weight and it has a molecular weight of resin thrombin. In other terms the x 62,700 or 30,600 gives the probable molecular weight of resin thrombin. In other terms the specific activity is 45,000 units/mg. "tyrosine." Purified resin thrombin digests fibrin substrates previously heated to free them of enzymes that might be present. The esterase activity is depressed in Na citrate solutions and upon standing the clotting activity is first lost.

In 25 per cent sodium citrate solution much of the tyrosine of resin thrombin becomes soluble in trichloracetic acid. It should, therefore, be possible to isolate resin-citrate-thrombin of even lower molecular weight than resin thrombin. We have activated purified prothrombin in 25 sodium citrate solution, separated the citrate thrombin (Seegers and Alkjaersig: Arch. Biochem. Bipophys., 61:1, 1956) and made a further separation with an amberlite IRC-50 (XE-64) column. The specific activity of this material was 47,000 units/

mg. tyrosine as compared with 33,000 previously achieved for citrate thrombin. The relationships of possibly different molecular structures can be diagrammed as follows:



The resin thrombin taken directly from the resin column is quite stable at 4°C. for months. Upon dialysis, to remove the phosphate buffer, activity is almost completely lost in a few hours. Consequently we had to find a way to remove salts. The thrombin is precipitated with $(NH_4)_2SO_4$, dissolved in water, precipitated by adding an equal volume of cold acetone. It is taken up in water and precipitated several times and then dried with acetone. This "salt-free" thrombin does not lose activity so rapidly upon dialysis. Evidently inorganic ions are of consequences for the stability of thrombin.

REVERSIBLE DENATURATION OF THROMBIN ACTIVITIES IN UREA SOLUTION

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The esterolytic, clotting, and proteolytic effects of thrombin are absent in 8 *M* urea solutions but appear as the urea concentration is reduced below 1 *M*. Tolysylarginine methyl ester (TAME) was stable when mixed with thrombin in 8 *M* urea solutions, the ester being determined by the hydroxylamine reaction. Following eight-fold dilution, the TAME was enzymically hydrolyzed. On extensive dilution of diisopropyl fluorophosphate (DFP)-thrombin-8 *M* urea mixtures, clotting activity was reactivated, further indicating that the enzyme had not reacted with the DFP, a powerful stoichiometric inhibitor of the enzyme.

Since the clotting of fibrinogen is sensitive to a number of factors possibly unrelated to the enzymic action of thrombin (that is, different optimum pH and calcium ion concentration), gelatin was employed as substrate for the measurement of proteolysis. A gelatin preparation of high intrinsic viscosity was prepared and thrombic activity was followed by viscosimetry. In this manner micro quantities of thrombin can be determined. The optimal pH of gelatinolysis is 8.0 to 9.0. Since this is the same as for thrombin reacting with TAME and DFP, it is, possibly, the optimum pH for all thrombin reactions regardless of substrate size. Neither calcium nor citrate ions enhance gelatinolysis. At pH 8.5 in 8 *M* urea solution, the thrombin is without proteolytic effect on gelatin. On eight-fold dilution, the reactivation of the enzyme is followed by a rapid decrease in viscosity. This gelatinolysis is accompanied by a liberation of N-terminal glycine residues.

These observations suggest that thrombin requires a particular three-dimensional configuration in order to react with substrates of both low and high molecular weights. Also, thrombin tends to recover this configuration after partial unfolding in concentrated urea solution.

ACTIVATION OF PROTHROMBIN

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In experiments with purified biothrombin, it was found that strong solutions of sodium citrate or protamine sulfate (0.1 per cent w/v) or purified platelet factor 3 depress the esterase activity and leave the clotting unaltered. Apparently a depression of esterase activity is beneficial for the autocatalytic activation of purified prothrombin. In protamine sulfate solution, prothrombin gradually becomes thrombin and the yield of thrombin is even higher than in 25 per cent sodium citrate solution. Prothrombin also depresses the esterase activity of biothrombin, and itself serves as a substrate for the enzyme thrombin. When prothrombin becomes an inactive derivative or a substance refractory to being converted to thrombin in the presence of Ac-globulin, thromboplastin and calcium ions, it can nevertheless be changed to thrombin with the use of thrombin as a catalyst, just as was previously accomplished with the use of 25 per cent sodium citrate solutions. Theoretically, a prothrombin derivative(s) can serve as substrate competitor for thrombin and thus be an accelerator of prothrombin activation, or the derivative, under appropriate conditions can itself give rise to thrombin. Thrombin, as activator of prothrombin, can account for all observed conditions of prothrombin activation. The discovery of thrombin as activator of prothrombin offers a simplified view of the entire blood coagulation mechanisms. Two equations can describe the basic events.

$$\text{Prothrombin} \xrightarrow{\text{Thrombin}} \text{Thrombin}$$

$$\text{Fibrinogen} \xrightarrow{\text{Thrombin}} \text{Fibrin}$$

Other factors support the production and enzymic function of thrombin and these are called procoagulants. Opposed to these, and normally in exact balance, are those factors that hinder the

production or function of thrombin and these are called anticoagulants. In the presence of thrombin prothrombin can change to thrombin without Ac-globulin. Plasma Ac-globulin changes to serum Ac-globulin in the presence of thrombin but not with esterase thrombin. Consequently, the depression of esterase activity does not impair the capacity of thrombin to make the beneficial alteration in Ac-globulin.

CHARACTERIZATION AND ISOLATION OF HUMAN BLOOD ANTITHROMBIN

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Antithrombin is the circulating anticoagulant of human blood and was first hypothesized in 1892. Subsequently investigation on this important biological substance has been hampered because its quantitative determination is obscured by fibrinogen. Therefore the present study was undertaken to isolate antithrombin and to determine its properties. The starting material was plasma. Fraction III+ IV (Shinowara) which was found to contain 96 per cent of the antithrombin activity and to be free of fibrinogen and other coagulation factors.

Further purification of antithrombin presented considerable difficulty. After numerous experiments the conditions for precipitation of Fraction III were evolved as follows: $\sim/2$ 0.0008, pH 5.1, ethanol concentration 20 vol. per cent, temperature —8.5° C. and precipitation time twenty-five minutes. This fraction has an average recovery of 94.9 per cent of the antithrombin activity of Fraction III + IV and contains 41.95 per cent of the plasma tyrosine and over 90 per cent of the plasma gamma globulin. Studies were done to determine the solubility, chromogenic factor, ultraviolet absorption and the electrophoretic composition of Fraction III.

A quantitative test procedure for antithrombin determination is described in which a standard antithrombin unit is defined as that which will destroy one unit of thrombin (N.I.H.) at 37.5° C. and pH 7.3 in thirty minutes with at least 40 per cent of the original 5 unit substrate per ml. activation mixture remaining. The influence of temperature, pH and mass on the thrombin-antithrombin reaction was studied, particularly at those concentrations employed in the test procedure. The reaction follows a first order course. The relationship of heparin and antithrombin was studied. Unlike heparin, antithrombin was found not to interfere in prothrombin conversion but to destroy thrombin after it was formed. The antithrombin level was also studied during the course of spontaneous coagulation.

OCCUPATIONAL THERAPY PROCEDURES AS APPLIED TO HEMIPLEGIA AND ARTHRITIS

(Continued from Page 1554)

as wheelchair selection; the approach to the home may need a ramp; the patient's bed should be stabilized and adjusted as to height; and floor coverings must be considered from the point of view of safety. The choice of types of clothing will make self dressing possible. The bathroom will need supportive bars and safety features installed. Simple rearrangement in the kitchen will make kitchen activities possible and give the homemaker a chance to continue to be a part of the homemaking responsibilities.

The occupational therapist must assist the rehabilitation team in re-establishing skills necessary for living which includes a plan to meet the total needs of the patient, physically, mentally, socially and vocationally.

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Michigan Chapter of the American College of Surgeons

Annual Meeting, March 18, 1958

THE VALUE OF SCALENE NODE BIOPSY IN THE DIAGNOSIS OF PULMONARY LESIONS

Raymond J. Barrett, M.D., F.A.C.S.,
Sung Hwa Yoo, M.D., and
William M. Tuttle, M.D., F.A.C.S.

Scalene node biopsy involves the removal of non-palpable nodes which lie in a constant fat pad over the anterior scalen and beneath the sternocleido mastoid muscles. Representing an extension of the mediastinal nodes, their biopsy affords a simple method of assessing changes in the mediastinal lymphatic system.

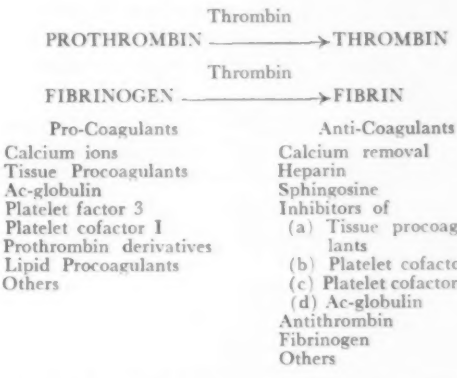
Experiences are recorded with 251 such biopsies performed by the same operators, or under their supervision, in both a private and a sanatorium practice. The private cases, representing relatively virgin material as would be expected, gave a higher incidence of positive biopsies than did the sanatoria cases. The effectiveness of the procedure ranged from a 5.7 per cent positive biopsy rate in sanatorium cases with unilateral pulmonary lesions, to a 37.8 per cent positive biopsy rate in private cases with bilateral pulmonary lesions. In bilateral disease, either right-sided or left-sided biopsy seems equally effective. The greatest usefulness of the procedure seems to lie in the diagnosis of Boeck's sarcoid since the biopsy was positive in 60 to 81 per cent of all cases in which this disease was finally proven. While the number of cases was too small to be statistically significant, the correct diagnosis was obtained in all cases of Hodgkin's disease and lymphosarcoma.

By contrast, biopsy gave the correct diagnosis in only 12 to 20 per cent of cases of pulmonary tuberculosis and in only 15 to 30 per cent of the cases of carcinoma of the lung in which it was attempted. The latter group consisted of those cases in which diagnosis, only, was to be established since a positive obviously indicates metastatic disease.

COAGULATION PROBLEMS IN SURGERY

J. Frederic Johnson, M.D., *Department of Physiology and Pharmacology, Wayne State University College of Medicine, Detroit, Michigan*

Recent progress in our laboratory has convinced us that the only factor necessary for the conversion of prothrombin to thrombin is thrombin itself. In such a scheme, the proposed factors which are considered important in blood coagulation can be listed as procoagulants which accelerate the process or as anticoagulants which inhibit. This is illustrated in the accompanying diagram.



Defective coagulation, if suspected from the patient's history or physical examination, can be ascertained by the following laboratory tests: (1) whole blood clotting time, (2) bleeding time, (3) tourniquet test for petechiae, (4) prothrombin time, (5) platelet count.

Marked deviation from the normal values in these few tests indicates the possible existence of a bleeding tendency which should be investigated further by specialized techniques.

Therapy for the defects in coagulation is primarily the use of whole fresh blood. Specific factor replacement such as fibrinogen, antihemophilic globulin, Vitamin K for prothrombin deficiency can be utilized in selected instances. How-

ever, the lack is often not found to be a single factor and the wider therapeutic latitude of whole blood is desirable.

Thrombosis and embolism are manifestations of hypercoagulability of the blood and are treated by the judicious, controlled administration of heparin and the coumarin derivatives.

The *sine qua non* of anticoagulant therapy is thoughtful, constant laboratory control of the coagulability of the blood. Adequate therapeutic levels of the anticoagulants must be maintained on an individual basis by continuuous accurate determinations and the dosage varied to match each patient and, further, to match alterations of sensitivity to the agent in the same patient.

A COMPARISON OF THE RESULTS OF MEDICAL AND SURGICAL TREATMENT OF GASTRIC ULCER

Robert E. L. Berry, M.D., and Louis Schmidt, M.D., *Ann Arbor, Michigan*

The problem of whether a gastric ulcer is malignant or benign will continue to be with us until such time as an accurate differential diagnosis is available without placing the resected ulcer under a microscope.

Five hundred gastric ulcers were studied in an effort to find out what happened to those for which there was reasonable question as to whether they were benign or malignant. At the University of Michigan Hospital, the majority of such ulcers are observed for a period of at least three weeks under strict medical regimen in the hospital before decision to operate is made. Of these, 287 were not operated upon and after a minimum of five years' observation cancer has not occurred. It has been assumed that these ulcers were benign. Of this group there has been a recurrence rate of 12 per cent.

One hundred and forty-four cases were operated because of a suspicion of cancer following failure of "adequate" healing. Of these, fifteen were malignant (10 per cent). When such early operation was done, five of this group were alive after five years. The remainder were dead with cancer of the stomach. Eleven other ulcer cases appeared to "heal" under medical treatment, only to return in less than a year with cancer. All of this group but one are dead.

The survival figure of 33 per cent in those undergoing "early" resection is simlar to that observed in cancer of the stomach when the surgeon feels reasonably sure that he has removed all of the gross cancer. It would appear that even such early operation does not contribute significantly to survival and that the most important factor as to whether or not a given cancer of the stomach is lethal depends upon the biological malignant potential inherent in the tumor.

INDICATIONS FOR THE USE OF THE ARTIFICIAL KIDNEY

Yoshikazu Morita, M.D.

In the past decade, the artificial kidney has proved itself useful in the treatment of renal failure. Not only does it remove retention products, such as urea, uric acid, phosphate and sulfates from the blood of uremic patients, it also corrects the abnormal plasma concentrations of sodium, potassium, chloride, calcium, and bicarbonate. Its chief use is in the management of the patient with acute reversible renal failure, such as occurs after severe shock, transfusion reactions, and drug reactions. In these persons, use of the artificial kidney may sustain life long enough to allow the diseased kidneys to recover adequate function.

There are two immediate indications for dialysis in a patient with renal failure: hyperpotassemia, best detected by electrocardiography; and severe uremia, best evaluated at the bedside by the clinical appearance of the patient. The artificial kidney is also useful in removing toxins from the plasma, such as bromides, salicylates, and certain barbiturates. Although it is an important therapeutic aid in the treatment of renal failure, it remains adjunctive to correct fluid, electrolyte and nutritional management.

President's Message

Our Working Foundation Needs Funds

The Michigan Foundation for Medical and Health Education is a valuable organization to the people and to our profession.

Today it has an opportunity to "capitalize" on the present need for funds created by the increasing influx of students into the medical schools of our state.

By "capitalize" I mean simply taking advantage of this opportunity to render service. We usually think of capitalizing on something as an attempt to profit by some situation. And that is precisely the case in this instance for we can "profit" *altruistically* by recognizing the situation in regard to medical and health education as it now exists and then doing something about it.

As I see it, the situation is simply this:

1. There is a need for more trained persons in the professional health fields.
2. There is an influx of students into our colleges and universities.
3. The cost *of* these students to the taxpayers and the cost *to* these students of the courses they must take is increasing.

The trick is to get the students into the health fields, get sufficient facilities in our schools to teach these students, and get money into the students' hands so that they can get the education they seek. The Michigan State Medical Society, itself, can and will help in the first two of these three important activities. Although the last task is the toughest, it rightfully falls under the responsibilities of the Foundation as the trustees thereof recognize.

With a minimum of funds, the Foundation has already done a mighty fine job. It has wisely invested its capital. Its record of service shows numerous loans to deserving medical students who agree to practice in rural Michigan; its support of the outstanding Michigan Rural Health Conference has been of inestimable value.

But it just can't do the complete job—the ultimate—without your money and your influence. Your personal contribution to this cause is vital. Of equal import are your advices to others in position to invest in the health future of our state, that they use this facility which your profession has created. How about it?

Delbert B. Dallenbach

President, Michigan State Medical Society

Editorial

MICHIGAN'S M-75

The Annual Session of the Michigan State Medical Society is history. The Blue Shield program has been through the wringer. During the very hours of the House of Delegates meeting, the projected M-75—which had been approved by the State Insurance Commissioner in May, had been publicized to our membership in June and had been offered to the public in July—was being demanded by labor in its negotiations with the three big automobile concerns and was being offered by these three administrative groups: Ford, Chrysler and General Motors, as part of their package offering to their laboring people. The program was acceptable from both standpoints and really was not truly a bargaining item. This acceptance by the automobile industry will cover about 1,750,000 persons. Other groups also have been offered the services and have indicated favorable reaction.

All summer, a growing disaffection was developing among a minority of the membership of the Michigan State Medical Society. Some objected completely to any service coverage—demanding only indemnity. Others thought Blue Shield should be limited to the indigent and the medically indigent. Others were not satisfied with the payments for their particular specialties as provided by the temporary schedule of fees to be paid. Some objected strenuously to the different methods of paying participating and non-participating doctors.

There are probably very few persons in the medical profession of Michigan, or elsewhere, who are completely satisfied with this insurance principle involved in pre-paying medical care. Almost everyone could very readily find items in the old contract or the new in which the payment offered was not or will not be as much as they consider to be their due, but fortunately enough physicians, in order to protect their patient as well as their own right to practice independent medicine, have been willing to accept.

Everyone plans to work for improvement. The fee schedule in the new M-75 is still under study by the fee schedule committee. There has been set up in every Counsellor District a medical care insurance committee to hear complaints and make recommendations in any case where the doctor feels he has been inadequately paid or unjustly treated.

In the discussions before the House of Delegates and in the reference committees, the dissatisfied groups had full opportunity and did express their beliefs and feelings. It appears from the various test votes that about one third of our membership are unhappy and demand to be shown that an honest effort is being made to meet their objections. The various committees and the Board while administering the program should bear in mind that our own Michigan-developed relative value scale must be presented and studied and must be sufficiently acceptable to the objecting members. At the same time, our members must render services under this contract in such a way that our subscribers will also be satisfied.

Twenty years ago, the threat of socialized medicine was extremely real. The Blue Shield service saved us. That threat is still real but the ogre is not so obviously pouncing upon us.

Not only Blue Shield but the medical profession is on trial. Will we respect and adhere to the published principles?

IMMUNIZATION

Immunization, particularly to polio and diphtheria, has broken down in certain areas of the United States. In several states polio is rampant. In the southeastern part of the State of Michigan there has been increasing recurrence of polio—approximately 600 cases (and last year there were approximately 150 cases of diphtheria). Medical research over the ages has developed protection against several diseases. Small pox—the earliest to be brought under vaccination control took many years and many drastic measures but is now almost unknown. If one case should occur in a community there would be panic.

Malaria and yellow fever are much of the same category. Our contacts with diphtheria and typhoid fever have been of more recent date. The methods of immunization are well-known and are available. Most children now receive the im-

munizing dose against diphtheria, smallpox, whooping cough and measles in their early years. We urge polio vaccine to be included in that pediatric procedure. Until it is thoroughly so-administered, we again urge our readers to administer this protection not just to the children or young adults, but also to the older ones. Polio sometimes occurs and recently has caused a violent death in Michigan of a person over forty years of age.

It might be well to re-survey the diphtheria situation and protect all those who are not now immunized. These two diseases could be completely eliminated. The cost is insignificant in comparison to the protection granted and we believe ways could be found in every community to protect those whose financial condition requires help.

POLIO VACCINE

The Michigan State Medical Society through The Council and the Michigan Department of Health have been urging for several years that the public become immunized to polio. During the first year of the Salk vaccine, the supply was limited as was its use to a certain category of children and pregnant women, but since the supply has become adequate, health authorities (including the United States Public Health Service) have recommended that everybody up to age forty be vaccinated.

This program has been advertised over radio, television, and the newspapers. The JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY recommended to the doctors about a year ago that we extend the program—removing the age limit. Older people do not frequently contract poliomyelitis but occasionally do. The editor personally took the vaccine—as did members of his family. He believes in taking what precautions he can.

Recently (early in September) almost every newspaper reported an epidemic of increasing numbers in Detroit and in three other states with increasing deaths. There have been a few cases of poliomyelitis in patients who had had one or two and possibly a third shot of vaccine, but so far as we can determine, none of these have developed paralytic polio. When Dr. Thor. Francis, Jr., made his report at Ann Arbor, publicizing the nationwide review of the massive polio vaccine injections, he estimated that the vaccine would be about 95 per cent effective and possibly more so in "paralytic polio."

The United States Public Health Service has reported that 44 million persons under forty have not yet had polio vaccination. A tenet of public health service has always been that if a major proportion of the population is protected against any infectious condition, the disease can be rather thoroughly controlled. If nearly 100 per cent could be protected, the disease could be eliminated as has almost happened in smallpox, diphtheria, typhoid fever, and yellow fever—especially in the more enlightened areas of the world. It would help if every doctor when he sees a new patient would inquire if he has had polio shots as one of his history-taking procedures—and we would not stop at age forty.

ANOTHER OBJECTION TO BLUE SHIELD

A group of about a dozen doctors have been in the habit of having lunch together for a long time. In general, the discussions avoid medicine except when some particular item is mentioned. One of the surgeons, a very prominent and influential man, remarked that there is a very serious objection to Blue Cross and Blue Shield being expressed by the faculties of many of the medical schools. Blue Cross and Blue Shield have made it feasible for thousands of patients with unusual or extremely serious or complicated conditions to have their work done in their own local hospitals by their own doctors. The patient load at the medical school hospitals has reduced to the extent that the faculties are much concerned over providing teaching material. They are considering curtailing intern and house physician services and the training of new specialists. This is being charged to Blue Cross and Blue Shield.

If true, the trend is serious and could materially handicap our teaching centers. Several joined in the discussion. Members of the group were surprised but mollified at an explanation offered by one of the senior members to whom the criticisms had been addressed. There is a very obvious reason for this trend of potential teaching material not going to the big cities and the big universities, or even from the big cities to the university clinics.

For about thirty years the medical profession has conducted a very extensive and well controlled training program to prepare young men for specialty service, has established and trained them to

pass the various specialty boards, and to do very acceptable work in their chosen fields. This has reached the point where there are very few communities of 25,000 or more which do not have thoroughly competent men to give all but the most elaborate medical and surgical care. Some special cases must be sent to the research and clinical centers for special evaluation. The majority can be well cared for in their home town areas within from 15 to 25 miles and the patient can be within close touch of his own family.

Our professors and medical teachers must expect that every time they train a new man to do the work which has previously been coming to them, they are setting up competition. This has always been the case as long as we have had scientific medicine and will continue to be so. This is one criticism which is unjust to make against Blue Shield and Blue Cross.

JENKINS-KEOGH BILL

The Jenkins-Keogh Bill, HR 10, in the last session of Congress passed the House but died in committee in the Senate. As our readers should know, this Bill provides for a voluntarily established method of investing a certain proportion of the income of certain groups (professions, self-employed) in retirement annuities, and that before tax deduction.

Industry has long had such a program and enormous reserves have been built up for retirement of executives and other employees. Through the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, we have been advocating this program for over ten years. At the present session, members of Congress have shown the greatest consideration for the measure and the House passed the bill.

We are publishing (page 1514) for the information of our members and readers a reply being sent to inquiries by Senator Byrd, the Chairman of the Senate Finance Committee. It has been known for years that the Bureau of Internal Revenue objected to this measure. This statement pinpoints that objection. The amount of loss in revenue which they mention is impressive but insignificant when compared to other programs and the favors granted industry in this same field. It is time our professional groups take an active interest in securing this type of legislation. The Jenkins-Keogh Bill as it has finally developed, is very much less liberal than what has been in existence for the employed persons for many years. What is being asked is only a small step toward equalizing the benefits and privileges our friends and neighbors do have now.

Both Senators from Michigan have responded to letters in the last few months stating their position as favoring this legislation. The Jenkins-Keogh Bill of the 85th Congress is dead. A new bill will be introduced in the Congress which will be meeting again in January. Letters will again be in order—directed not only to Michigan Congressmen but to every member of the Senate Finance Committee which will consider this Bill. Senator Byrd of Virginia will continue to serve as chairman of this important committee.

ONTARIO HOSPITAL CARE INSURANCE

In 1957, the Province of Ontario passed an act establishing the Hospital Service Commission with two basic responsibilities: (1) to insure the development throughout Ontario of a balanced and integrated system of hospitals and related health facilities, (2) to establish a plan for hospital care insurance in accordance with an agreement between the government of Ontario and the government of Canada.

The government does not plan to build hospitals but will stimulate the development of essential hospital facilities throughout the province. The commission took over the reins of an already active program of hospital expansion in Ontario which, during the period from 1946 to the end of 1957, increased the total number of beds in public general hospitals, hospitals for convalescents and hospitals for the chronically ill by 78 per cent. The growth of hospital accommodations will continue to be encouraged and guided by the commission.

The hospital insurance part of the program is being sold now to all residents of Ontario and will go into active effect at 12:01 a.m., January 1, 1959. Subscribers must register before December 1, 1958 and pay the first month's premium which will provide protection for three months until March 31, 1959. But the subscriber must pay a premium each month beginning in January. Enrollment for this insurance is compulsory for all residents of Ontario who are employed where there are fifteen or more persons on the payroll. Employers with six to fourteen employees may ap-

ply to form mandatory groups. Each employee is primarily liable for payment of his own hospital insurance premium and the employer is required to remit a premium for every eligible employee. If there is no arrangement whereby the employer undertakes to pay part or all of the hospital insurance premiums, the employer is authorized to deduct premiums from wages.

This program is compulsory as stated above for employed persons where there are fifteen or more or electively where there are six to fourteen. The subscriber may pay direct but if not his employer will deduct from his wages. This program can have but one result in Ontario—the Blue Cross will be limited to privately employed persons, or groups under six and will be extremely handicapped; in fact, there is a rumor that Blue Cross of Ontario will cease to exist. Other provinces of Canada are having the same difficulties. This program does not cover medical service but points to a condition which could very readily be established and which almost does exist in some localities.

MILTON ALFRED DARLING

President-Elect

MILTON A. DARLING, M.D.

Born in Branch County, Michigan, and a graduate of Coldwater High School, Milton Alfred Darling obtained his D.D.S. degree from the University of Michigan in 1911 and three years later received his M.D. degree from the same institution, followed by two years of residency in obstetrics and gynecology.

In the autumn of 1916, he began practice in Detroit, later serving for two years in World War I as Captain in the Medical Corps (Field Hospital 15), 2nd Division, A.E.F. He was Senior Surgeon U.S.P.H. (Reserve) from 1943-45, and was President of the Wayne County Medical Society 1955-56. He has served as Department Head of Obstetrics and Gynecology, Grace Hospital, and Chief of Staff of that institution for eight years. He is also Consulting Obstetrician and Gynecologist for Florence Crittenton Hospital.

Dr. Darling is a Diplomate of the American Board of Obstetrics and Gynecology, a member of the Detroit Academy of Surgery and Fellow of the American College of Surgeons. He is a member of the American Medical Association and of the Detroit Academy of Medicine.

He is Past President of the Michigan Society of Obstetricians and Gynecologists, Detroit Institute of Cancer Research, and Detroit Chapter of International Torch Club. He is also a member of the Detroit Golf Club.

CHARLES N. HOYT

Councilor, Seventh District

Dr. Hoyt, Port Huron, was born in Grosse Pointe, Michigan in 1914, graduated from the Detroit University School in 1931, attended Hobart College and the University of Michigan, graduating from the University of Michigan Medical School in 1938.

His internship and medical residence was at St. Lukes Hospital, Chicago, 1938 to 40. He was a medical resident at Cook County Hospital from July, 1940 until January, 1941, after which he established general practice in Cedar Falls, Iowa, until July, 1942.

Dr. Hoyt entered military service serving eighteen months with the Air Force in Europe in an evacuation hospital, as a Captain in the Medical Corps. After the war, he established general practice in Port Huron, Michigan, and has been there since 1945.

He served as Chief of Staff of the Port Huron Hospital in 1956 and was President of St. Clair County Medical Society in 1957. This year he became a member of the Public Relations Committee serving the Michigan State Medical Society.

ARE WE TAKING THE BLUE SHIELD FOR GRANTED?

We doctors are just as human as our non-medical friends. And we might as well confess that we share all the perversities of human nature—most of which seem so magnified when people become patients.

One of mankind's most dangerous perversities is to take for granted so many of life's blessings which were secured to us only by heroic effort and sacrifice on the part of our forebears.

Thus it is with our political freedom. As John Philpot Curran warned our infant nation in 1790: "The condition upon which God hath given liberty

to man is eternal vigilance; which condition if he break, servitude is at once the consequence of his crime and the punishment of his guilt."

Twenty years ago, when the American Medical Association, in special session, endorsed the principle of voluntary health insurance, American doctors in many scattered places began the long hard task of creating American medicine's own unique instrument, that is now known as Blue Shield. Truly, these older brothers of ours struck a great blow for freedom when they built this voluntary prepayment program which now serves one of every four Americans.

In support of their efforts, we must apply our energies to further strengthen and refine Blue Shield. Leadership in the affairs of our Plan now and in the future is a responsibility we cannot delegate nor can we permit it to be abridged.

This will secure the real and practical benefits of the Blue Shield Program for the public good—a principle to which medicine has always been fundamentally dedicated.

Indeed, American medicine has too great a stake in the future of voluntary health insurance to ignore Blue Shield. For when we doctors created Blue Shield we not only pioneered the wilderness of prepayment and built our main bulwark against socialized medicine, we also identified ourselves with an idea and a program to which the people of America have given a tremendous endorsement.

Eternal vigilance is indeed the price of our freedom in medicine.

APPLICATION OF PSYCHOSOMATIC CONCEPTS

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REITER PROTEIN COMPLEMENT FIXATION TEST FOR SYPHILIS

(Continued from Page 1556)

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Michigan Foundation for Medical and Health Education, Inc.

PRESIDENT'S ANNUAL REPORT

By Earl Ingram Carr, M.D., *Lansing*

This annual meeting of the Michigan Foundation for Medical and Health Education, Inc., is the thirteenth since incorporation in September, 1945. All established activities have proceeded throughout 1957 as usual by continuation and repetition of the several sponsorships, providing two established lectureships, running the business of the student loan fund, and keeping ourselves available for reasonable services as requests arise.

Our intimacy with the Michigan Health Council made a personnel change in the Michigan Health Council of our concern when their efficient executive secretary, Mr. E. H. Wiard, resigned to re-enter business effective September 1. The successor in this position is Mr. John A. Doherty who is already exhibiting agression and talent.

The eleventh Michigan Rural Health Conference, to which we have been designated the financial sponsor since its early inception, was held in Ann Arbor January 22 and 23. The theme this year revolved around the atom in its relation to medicine and health. The development of the subject by distinguished speakers and resource people, numbering fifty-six, brought forth praise and compliments. "One of the best" is one of the most frequently expressed comments. More than 300 registered for the conference, despite poor and slushy roads and bad weather.

The President of the Foundation was on hand for remarks to open the conference. A conflicting obligation prevented his appearance at the banquet. We are indebted to Dr. Harry A. Towsley for representing the Foundation as banquet speaker to explain the MSMS Postgraduate Education Program which for many years has brought lectures twice a year to geographically selected regions for the benefit of remotely situated doctors.

The Foundation Lecture for the Michigan Clinical Institute in March in Detroit, was given by Charles B. Huggins, M.D., of the Ben May Laboratory for Cancer Research, University of Chicago, on the subject, "Control of Human Cancer by Endocrinology." The Foundation presented Dr. Huggins with a scroll.

The Biddle Lecture was given in Grand Rapids at the annual meeting of Michigan State Medical Society by the Vice President of UAW-CIO, Mr. Leonard Woodcock, substituting for Mr. Walter Reuther on the subject, "Medicine and Labor in These Changing Times."

A television program in December in Detroit credited the part that the Foundation takes in the Rural Health Conference.

Only one applicant who might have qualified for the Student Loan Fund made inquiry in 1957. Because of a miscarriage of his letter, the informative reply was delayed. No response to requirements has yet been received. One processed loan reported a year ago for $2,000.00, being delivered $500.00 per semester, has been drawn in full. Outstanding loans aggregate $11,663.12 plus the above-mentioned $500.00 payable next semester, totaling $12,163.12 on the audit date.

Gifts this year have been disappointing, only $210.00 having been received in birthday contributions. Investment earnings for 1957 aggregate $4,056.86.

The Auditors show a total of book value assets of $130,235.54 besides redemption value increase of $5,843.68 and the balance of the allocation by Ingham County Medical Society of $3,847.66, including credited interest of $160.78, all of which makes a net worth of $139,926.88 on the audit date.

Universal remembrance by all doctors of the LeFevre Plan to make a birthday contribution to the Foundation would produce needed growth of assets. Your trustees are eager to extend activities as rapidly as money can be acquired.

January 30, 1958

SECRETARY'S ANNUAL REPORT

By William J. Burns, LL.B., *Lansing*

The Secretary has executed the duties of his office according to the By-Laws and as provided in Robert's Rules of Order, pursuant to the instructions of the Board of Trustees and with the helpful guidance of President Carr and Treasurer Gardner.

The report of the Treasurer† indicates the utilization of the Student Loan Fund created to aid the medical education of chosen medical students. It is to be noted that all loans to the selected medical students have been paid in full by the Foundation.

†See next page.

TREASURER'S ANNUAL REPORT

By H. H. Gardner, M.D., *Birmingham*

The report of the Auditor, Kostman & Smith of Lansing, Michigan, indicates the financial status of the Foundation as of December 31, 1957.

STATEMENT OF ASSETS AND EQUITIES
December 31, 1957

ASSETS		
Michigan National Bank, Lansing, Michigan (Schedule 1)		$ 6,824.85
SECURITIES OWNED (Schedule 2) (Market or Redemption Value $117,591.25)		
U. S. Government Bonds	$44,220.75	
Canadian Government Bonds	14,343.75	
Railway Bonds	26,385.45	
Public Utility Bonds	2,703.50	
Bank Stocks	5,327.41	
Public Utility Stocks	18,766.71	
		111,747.57
NOTES RECEIVABLE		
Benjamin F. & Mary Koepke	2,000.00	
L. Edmond Eary, Jr.	1,600.00	
John C. Shelton	1,250.00	
Donald P. & Constance E. Jackson	2,500.00	
Russell F. & Dolores M. Smith	500.00	
Paul C. & Mrs. Linnell	2,313.12	
Richard Morin	1,500.00	
		11,663.12
TOTAL ASSETS		$130,235.54

(Continued in next column)

Note 1—A reserve in an amount equal to 20% of the student loans has been set up to cover the possibility of losses on these loans.

EXHIBIT A

EQUITIES	
RESERVE FOR STUDENT LOANS (Note 1)	$ 2,332.63
FUND EQUITY	127,902.91
TOTAL EQUITIES	$130,235.54

STATEMENT OF INCREASE IN ASSETS
December 25, 1956, to December 31, 1957

BALANCE December 25, 1956			$127,332.90
RECEIPTS			
Various donations	$ 210.00		
Canadian exchange	10.27		
Refund of expenses	1.98		
Dividends and interest—net of amortization and interest paid on purchase per Schedule 2	4,056.86		
TOTAL RECEIPTS		$4,279.11	
DISBURSEMENTS			
Michigan Rural Health Conference	$1,000.00		
Foundation lecture	166.85		
Meeting expense	19.72		
Safekeeping fees	46.00		
Auditing	75.00		
Fidelity Bond	62.50		
Safety deposit box	4.40		
Michigan Corporate Filing fee	2.00		
TOTAL DISBURSEMENTS		1,376.47	
NET INCREASE IN ASSETS			2,902.64
BALANCE December 31, 1957			$130,235.54

EXHIBIT B

SECURITIES OWNED—DECEMBER 31, 1958

BONDS HELD IN SAFE-KEEPING	Interest Rate	Maturity Date	Interest Paid To	Face Value Or Number Of Shares	Market Or Redemption Value At 12-31-57	Book Value 12-31-57	Income From 12-24-56 to 12-31-57	Less Amortization and Interest Paid On Purchase	Net Income For Year
U. S .Savings Bonds—Series "F"	.....	8-1-58	Cumulative	$ 1,000.00	$ 962.00	$ 962.00	$ 62.00		$ 62.00
U. S. Savings Bonds—Series "G"	2½%	8- 1-58	8- 1-57	15,300.00	15,085.80	15,300.00	382.50		382.50
U. S. Savings Bonds—Series "G"	2½%	5- 1-61	11- 1-61	10,000.00	9,700.00	10,000.00	250.00		250.00
U. S. Savings Bonds—Series "G"	2½%	4- 1-62	10- 1-57	5,000.00	4,820.00	5,000.00	125.00		125.00
U. S. Treasurey Notes	2⅞%	6-15-58	12-15-57	8,000.00	7,939.20	7,952.50	230.00		230.00
U. S. Treasurey Notes	2⅞%	6-15-58	12-15-57	5,000.00*	4,962.00	5,006.25	143.75		143.75
Penn. R.R.—Equipment Trust	3¾%	4- 1-64	10-15-57	1,000.00	955.00	975.74	37.50		37.50
Chicago, Milwaukee, St. P. & P.	2⅞%	5- 1-63	11-10-57	5,000.00	4,606.25	4,661.31	143.75		143.75
Missouri Pacific R.R.	3½%	4- 1-63	10-15-57	1,000.00	950.00	949.45	33.75		33.75
Dominion Canada 6th Victory Loan	3 %	6- 1-60	12- 1-57	15,000.00	14,887.50	14,343.75	450.00		450.00
Chicago & Northwestern R.R. Co. Equipment Trust Certificates	3¼%	6-15-58	12-15-57	5,000.00	4,968.75	5,000.00	187.50	$ 13.93	173.57
Detroit Edison Co.—Convertible Debentures	3¼%	2- 1-69	8- 1-57	800.00	1,164.00	800.00	26.00		26.00
Detroit Edison Co.—Convertible Debentures	3¾%	9-14-71	9-14-57	1,000.00	1,175.00	1,003.50	37.50	.30	37.20
Chicago, Burlington & Q. R.R.	3⅛%	2- 1-60	8- 1-57	10,000.00	9,700.00	10,034.49	312.50	11.50	301.00
Chicago, Burlington & Q. R.R.	2⅝%	1- 1-61	7- 1-57	5,000.00	4,706.25	4,764.46	65.65	17.50	48.15
Consolidated Edison Co. N. Y.—Debentures	4½%	1972	8-22-57	400.00	442.00	400.00	7.52		7.52
Consumers Power Debenture	4⅝%	11- 1-72		500.00	552.50	500.00	.....		.....
					$ 87,576.25	$ 87,653.45	$ 2,494.92	$ 43.23	$ 2,451.69
STOCKS HELD IN SAFE-KEEPING									
Continental Illinois Nat. Bank & Trust Company of Chicago —Common				$ 76.00	$ 6,270.00	$ 5,327.41	$ 304.00		$ 304.00
Boston Edison Co.—Capital				110.00	5,390.00	5,625.00	308.00		308.00
Consumers Power Co.—Common				130.00	6,305.00	4,520.86	308.06		308.06
Detroit Edison Co.—Capital				200.00	7,600.00	4,603.41	400.00		400.00
Consolidated Edison of N. Y. —Common				100.00	4,450.00	4,017.44	240.00		240.00
					$ 30,015.00	$ 24,094.12	$ 1,560.06		$ 1,560.06
HELD BY TRUSTEE									
U. S. Savings Bond—Series "G" (Matured)	2½%	2- 1-57	2- 1-57	.....	.....	.....	45.11		45.11
					$117,591.25	$111,747.57	$ 4,100.09	$ 43.23	$ 4,056.86

*Safekeeping receipt of 1st National Bank of Chicago

SCHEDULE 2

Michigan State Medical Society

September Session of The Council
September 28-October 3, 1958

MEMBERS OF THE COUNCIL, 1958-59

Standing (left to right): H. H. Hiscock, M.D., Flint; William Bromme, M.D., Detroit; E. S. Oldham, M.D., Breckenridge; B. T. Montgomery, M.D., Sault Ste. Marie; C. Allen Payne, M.D., Grand Rapids; O. B. McGillicuddy, M.D., Lansing; W. W. Babcock, M.D., Detroit; Charles N. Hoyt, M.D., Port Huron; Wilfrid Haughey, M.D., Battle Creek; O. J. Johnson, M.D., Bay City; G. T. McKean, M.D., Detroit.

Seated (left to right): B. M. Harris, M.D., Ypsilanti; J. J. Lightbody, M.D., Detroit; K. H. Johnson, M.D., Lansing; M. A. Darling, M.D., Detroit; A. E. Schiller, M.D., Detroit; D. Bruce Wiley, M.D., Utica; G. B. Saltonstall, M.D., Charlevoix; L. Fernald Foster, M.D., Detroit; Ralph W. Shook, M.D., Kalamazoo; and Wm. M. LeFevre, M.D., Muskegon.

Absent on Society business: H. J. Meier, M.D., Coldwater; D. G. Pike, M.D., Traverse City; George W. Slagle, M.D., Battle Creek; and T. P. Wickliffe, M.D., Calumet. W. A. Hyland, M.D., Grand Rapids, was in Europe.

HIGHLIGHTS

Eighty-one items were presented and discussed by the twenty-five members of The Council (eighteen councilors, and the elected officers) at the two meetings held coincident with the MSMS Annual Session in Detroit. The following matters and problems facing the medical profession of Michigan were discussed.

- **Reorganization of The Council: D. Bruce Wiley, M.D., Utica, was re-elected as Chairman.**
  A. E. Schiller, M.D., Detroit, was chosen as Vice Chairman.
  Wm. L. LeFevre, M.D., Muskegon, was selected as Chairman of the County Society Committee to succeed himself.
  Ralph W. Shook, M.D., Kalamazoo, was re-elected head of Finance Committee.
  B. M. Harris, M.D., Ypsilanti, was again chosen for the post of Chairman of the Publication Committee.

- **The monthly Financial Reports were studied and approved as well as bills payable which were ordered paid.**

(Continued on Page 1596)

- New MSMS Headquarters Building. Architects M. Yamasaki & W. R. Jarratt of Birmingham, made a visual presentation of final preliminary plans, including lantern slides and model of the 47 x 155 foot building to be erected in East Lansing.

  The final preliminary plans were approved by The Council and recommended to the 1958 House of Delegates.

- Medicare. Two amendments to the existing contract, correcting listing of typographical errors, were presented and the MSMS President was authorized to sign the revised contract; Michigan Medical Service was requested to continue as fiscal agent of the State Society in the Medicare program.
  An MSMS Representative to attend the AMA's meeting on Medicare, scheduled for Minneapolis, December 1, was authorized.
  The Council expressed gratitude to Mr. Jay C. Ketchum for the way he devotedly served the Michigan Medical Profession in the last few arduous months —even to endangering his health.

- President George W. Slagle, M.D., reported he had been advised that the American Osteopathic Association at its July 13-18, 1958, Convention in Washington, D. C., had changed its constitutional object to read "The object of this association shall be to promote the public health, to encourage scientific research and to maintain an improved high standards of medical education in Osteopathic Colleges."

- A Vote of commendation was extended to Doctor Slagle on his excellent work as MSMS President during the past year.

- Michigan Relative Value Scale. The Medical Care Insurance Committee was given the specific task of developing this Scale; further, protocol was created that all MCIC reports shall be presented to The Council or its Executive Committee. Inasmuch as the Medical Care Insurance Committee is a Committee of The Council. The Councilor District MCI Committees were declared Committees of The Council.

- Committee reports included Committee on Big Look, meeting of September 19; Medical Care Insurance Committee, meeting of September 20; Uniform Fee Schedule for Governmental Agencies, August 24; Committee on Study of Insurance Problems for MSMS Members, September 10—including approval of plan B covering group life insurance; Liaison Study Committee on hospital staff payments, September 11; Vocational Rehabilitation Committee, August 20; Permanent Advisory Committee on Fees, August 22; Scientific Radio Committee, August 27; National Defense Committee, August 27; Rheumatic Fever Control Committee, September 10; Advisory Committee to Michigan State Medical Assistants Society, September 14; Committee on Committees, September 19; meeting of Ubiquitous Host, September 25; Wayne County District Committee MCIC, September 9.

- The Supplemental Report of The Council was given careful review and was approved, for reference to the House of Delegates.

- A questionnaire was authorized to be sent to all MSMS members as a follow-up of the Annual Session, to gain recommendations for improvement of the convention and to obtain suggestions for speakers and topics for the 1959 Annual Session.

- International Drilling Machine's letter re their plans to organize a non-profit foundation to include outpatient clinics, hospitals, etc., was given consideration and referred to the American Medical Association, for advice and action.

- Jenkins Keogh: Legal Counsel Lester P. Dodd reported that this bill had been adopted by the House but had been bottled up in the Senate of Congress; however, it might be adopted soon by Congress and he anticipates numerous schemes—some good and some of no value—would be presented to doctors of medicine throughout the land, immediately upon approval of this measure. Mr. Dodd felt studies now should be made to take full advantage of such legislation by presentation of a bonafide, equitable plan to Michigan physicians. Mr. Dodd was authorized to explore, investigate and pre-develop such a plan, working with trust companies, to gain group advantage for doctors of medicine from the Jenkins Keogh legislation.

- Michigan Medical Service. The Council took action that no list of participating or nonparticipating physicians in any contract between members of the Michigan State Medical Society or any other insurance carrier approved by the Michigan State Medical Society be divulged.

- Permanent Secretary to MCIC. The Committee on selection included G. B. Saltonstall, M.D., Chairman, L. Fernald Foster, M.D., Max L. Lichter, M.D., Ralph W. Shook, M.D., G. W. Slagle, M.D. and Messrs. Wm. J. Burns and H. W. Brenneman. The Council declared that the MCIC secretary shall be under and responsible to the MSMS Secretary.

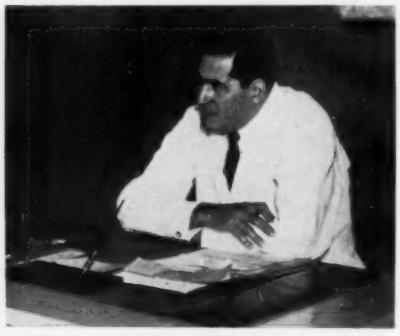
- All Councilors reported on the condition of the profession in their Districts.

- Michigan Health Commissioner A. E. Heustis, M.D., presented a progress report on poliomyelitis. In the drive for more complete immunization of young children, The Council directed the MSMS Child Welfare Committee to aid the State Health Commissioner, and also referred the matter to the Public Health Committee of the Wayne County Medical Society, offering any assistance the MSMS can give it.

- Official recognition of and thanks to retiring Councilors and Officers for important contributions to MSMS over the years was placed in the minutes of The Council; as was official thanks to all who helped with the 1958 Annual Session which registered a total of 4,035; also a vote of thanks was expressed to members of the MSMS Executive Office staff for their zeal and splendid work in connection with this outstanding 1958 Annual Session.

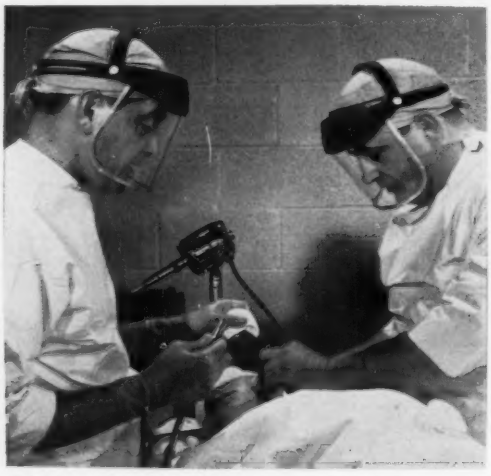
The control room of the television studio is the nerve center of activities during the final rehearsals for the special one-hour show. The technician in the pit at left makes an adjustment in his equipment as Jack Pardee, of MSMS, and Gilbert B. Saltonstall, M.D., MSMS President, look on. Also pictured are Director James Murray, with headset, and Writer Jack Kantner, chin in hand. The technician at the rear awaits a cue to operate the video tape sequences.

Arthur E. Schiller, M.D., Detroit, provided the medical commentary during the show.

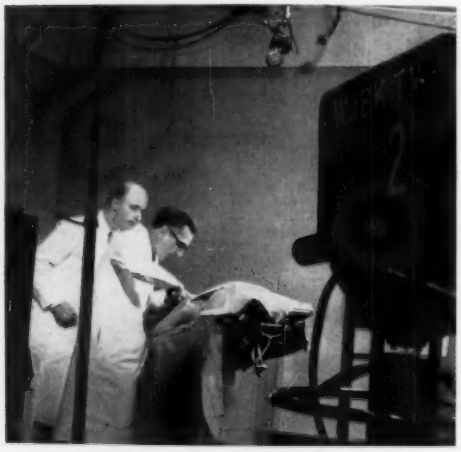


Sidney E. Chapin, M.D., Dearborn, conducted the physical examination performed on the show.

Moderator Bob Murphy introduces the motivation scene for the physical examination. The actors pictured are Marilyn Turner and Ernie Winstanley.



Coleman Mopper, M.D., Detroit, left, is assisted by Edward Mercantini, M.D., Detroit, as they perform a skin planing procedure.



Clarence Livingood, M.D., right, head of the Department of Dermatology, Henry Ford Hospital, performs a biopsy of a surface lesion. James F. Hitselberger, M.D., Detroit, left, assisted in the operation.

TV Cameras Look in on *"The Family Doctor"*

An estimated one and a quarter million people in the Detroit area had a behind-the-scenes look at what goes on in a doctor's office by watching a special one-hour television show on WJBK-TV, Detroit, September 28, at 5:30 p.m.

The program, "The Family Doctor," was produced by WJBK-TV in co-operation with the Michigan State Medical Society, the Wayne County Medical Society and the Michigan Health Council.

Three surgical procedures which can be performed in a doctor's office, a demonstration of skin testing and a physical examination were all presented during the special telecast.

Bob Murphy, of WJBK-TV, acted as the moderator. Arthur E. Schiller, M.D., of Detroit provided a running scientific commentary during the production. The surgical procedures and the skin testing had been recorded several weeks prior to the show on a new video tape process. As they were presented at regular intervals in the show, Dr. Schiller described what was taking place.

The first procedure was the removal of a keratosis by three methods. Charles Courville, M.D., of Detroit, used a patient to show how a keratosis can be removed simply in a doctor's office with diathermy, carbon dioxide snow or by curetting after pain is deadened with ethyl chloride spray.

At the conclusion of this demonstration, two actors set the stage for the motivation in the physical examination sequences. In the skit a husband complained of stomach pains after eating his wife's cooking. She insisted it wasn't her cooking but something the matter with his inner workings. As a result, she called their family doctor to make an appointment for her husband to have a physical exam.

There followed an actual examination of the actor-patient by Sidney E. Chapin, M.D., of Dearborn. The exam included an EKG and lab tests—all performed before the television cameras. The diagnosis: duodenal ulcer.

In the other procedures, Coleman Mopper, M.D., of Detroit, assisted by Edward Mercantini, M.D., of Detroit, carried out a skin planing. The face of the female patient had been pitted with acne scars. While this was going on, Doctor Schiller and Bob Murphy also discussed the advances made in skin planing since World War II.

The third procedure, a biopsy, was conducted by Clarence Livingood, M.D., head of the Department of Dermatology at Henry Ford Hospital. He was assisted by James F. Hitselberger, M.D., of Detroit. The sequence was carried out in three parts. First, Doctor Livingood showed various types of skin lesions present on the skin of a patient. Then he removed a lesion for biopsy. In the third stage, he showed how the biopsy was carried to completion with a microscopic examination.

Homer A. Howes, M.D., of Detroit, assisted by his nurse, Mrs. Hazel Johnston, R.N., demonstrated scratch tests for ragweed sensitivity and an intradermal test on a patient allergic to certain foods.

At the end of the program, Gilbert B. Saltonstall, M.D., Charlevoix, President of MSMS, introduced the Honorable Louis Miriani, Mayor of Detroit, who proclaimed Family Doctor Week in the Detroit area.

The special one-hour telecast was written and produced by Jack Kantner of the Michigan Health Council. The program was directed by James Murray, of WJBK-TV. Other WJBK-TV personnel who were instrumental in setting up the time for the program and making arrangements for a smooth functioning production were Ralph Rust, TV Program Production Manager, and P. J. Frommert, Executive Producer.

Technical advice for the production was provided by a special television committee of the sponsoring organizations. They were Arthur E. Schiller, M.D., Detroit; Sidney E. Chapin, M.D., Dearborn; and R. W. Teed, M.D., Ann Arbor.

Gilbert B. Saltonstall, M.D., President of the Michigan State Medical Society, studies his script before introducing the Mayor of Detroit.

WAYNE COUNTY MEDICAL SOCIETY AUXILIARY DIRECTORY CORRECTION

Our attention has been directed to an error on Page 77 of the Directory of Members, Michigan State Medical Society, September, 1958. Listed herewith is the corrected membership directory of the Southern Branch-Wayne County Medical Society Auxiliary. Our apologies for the error in the original listing.

—The Editor

WAYNE COUNTY MEDICAL SOCIETY AUXILIARY SOUTHERN BRANCH

Alban, Mrs. Emil J., Jr.....15287 Philomene, Allen Park
Allen, Mrs. John V.....15265 Philomene, Allen Park

Beck, Mrs. Stanley M., Jr.....15649 Churchill, Wyandotte
Bennett, Mrs. H. Stanley.....
29767 East River Road, Grosse Ile
Bott, Mrs. Edmund T.....
1804 Thirteenth Street, Wyandotte
Bower, Mrs. Donald W.....
1005 King's Highway, Lincoln Park
Boyd, Mrs. John Huntley....2052 Church Place, Trenton
Braden, Mrs. Robert G.....
25060 East River Road, Grosse Ile
Brown, Mrs. Charles H.....1729 Davis, Wyandotte
Brown, Mrs. Robert A.....
22623 West River Road, Grosse Ile
Bruer, Mrs. B. J.....9037 Park Avenue, Allen Park
Butler, Mrs. Harry R.....9415 Mortonview, Dearborn

Cahalan, Mrs. Joseph L.....13381 Catalpa, Wyandotte
Cameron, Mrs. Arthur J.....155 Vinewood, Wyandotte
Cassel, Mrs. Harry E...1816 Fifteenth Street, Wyandotte
Coan, Mrs. Glenn L...24099 West River Road, Grosse Ile
Cook, Mrs. James A...2246 Twentieth Street, Wyandotte

Deering, Mrs. Robert J.....
26225 West River Road, Grosse Ile

Easterly, Mrs. Robert L.....
2514 Eighteenth Street, Wyandotte
Engel, Mrs. Earl H.....33 Emmons Court, Wyandotte
Erickson, Mrs. Eldon W.....
29385 East River Road, Grosse Ile

Firnschild, Mrs. Paul G.....10528 Andrews, Allen Park
Foote, Mrs. James A.....870 Winchester, Lincoln Park
Frothingham, Mrs. George E.....
1657 Twenty-Third Street, Wyandotte

Ganos, Mrs. Thomas.....9238 Vine, Allen Park
Gilbert, Mrs. Harold R.....13146 Phalps, Wyandotte

Herkimer, Mrs. Daniel R.....
1802 Buckingham, Lincoln Park
Hileman, Mrs. S. Lee.....755 New York, Lincoln Park
Hillyer, Mrs. John W.....
29897 Red Cedar Drive, Flat Rock
Hoffer, Mrs. Thomas.....1556 Walnut, Dearborn
Holmes, Mrs. George F.....23 Emmons Court, Wyandotte
Honor, Mrs. William H.....
20446 East River Road, Grosse Ile
Hookey, Mrs. John A.....
2872 Van Alstyne Boulevard, Wyandotte

Jones, Mrs. William J...15839 Crescent Drive, Allen Park

Kelly, Mrs. John J.....
2820 Twenty-Second Street, Wyandotte
Knaggs, Mrs. Earl J.....13179 Phelps, Wyandotte
Knapp, Mrs. Byron S.....7536 Colwell, Allen Park
Knox, Mrs. Ross M.....15400 Philomene, Allen Park
Kowaleski, Mrs. John J.....9646 Vine Street, Allen Park
Kuhn, Mrs. Richard F.....27857 Elba Drive, Grosse Ile
Kutsche, Mrs. John D.....2616 Lenox, Trenton
Kwasiborski, Mrs. Sanley A.....9495 Island, Grosse Ile

LaBerge, Mrs. J. M.....1767 Ash Street, Wyandotte
Lebamoff, Mrs. Alexander T...7427 Rosedale, Allen Park
Libbrecht, Mrs. Robert V...15330 Wick Road, Allen Park

Maibauer, Mrs. Fred P.....1742 Ash Street, Wyandotte
Maynard, Mrs. Fred M.....9366 Manor, Allen Park
McColl, Mrs. Charles W.....
2285 Twenty-First Street, Wyandotte
McGlaughlin, Mrs. N. D.....
2062 Twenty-Second Street, Wyandotte
Mikesell, Mrs. Wesley B., Jr.....
24650 Kensington, Taylor Township
Momcilovich, Mrs. Bozidar.....
24537 Laurel Drive, Flat Rock
Morley, Mrs. Arthur R., Jr.....
15753 Promenade, Allen Park
Murray, Mrs. Robert J.....2906 Riverside Drive, Trenton

Nagle, Mrs. John W...26633 West River Road, Grosse Ile
Noe, Mrs. Joseph T.....8436 Church, Grosse Ile

Proud, Mrs. Robert H.....
29155 Evergreen Avenue, Flat Rock
Proud, Mrs. Russel F...29883 Red Cedar Drive, Flat Rock

Ray, Mrs. Kenneth J.....28059 Elba Drive, Grosse Ile
Ridge, Mrs. Ralph W.....
3227 Van Alstyne Boulevard, Wyandotte
Rinkel, Mrs. Robert W...21800 Willoway Road, Dearborn
Roberts, Mrs. Arthur J.....859 Winchester, Lincoln Park
Rogers, Mrs. J. Dudley.....
2329 Twentieth Street, Wyandotte

Schroeder, Mrs. Carlisle F.....
26505 East River Road, Grosse Ile
Schwarz, Mrs. Frank W...321 South Claremont, Dearborn
Schwocho, Mrs. Niles H.....
15917 Crescent Drive, Allen Park
Speck, Mrs. Carlos C.....14839 Markese, Allen Park
Stryker, Mrs. Walter A.....
21604 East River Road, Grosse Ile
Szladek, Mrs. Frank J.....28315 Elba Drive, Grosse Ile

Taurence, Mrs. William H.....
2316 Twentieth Street, Wyandotte
Tenaglia, Mrs. Thomas A.....
820 King's Highway, Lincoln Park
Thomson, Mrs. Daniel C.....18459 Parke Lane, Grosse Ile

Van Becelaere, Mrs. Lawrence A.....
21355 Knudsen Drive, Grosse Ile

White, Mrs. Donald H.....20685 Meridian, Grosse Ile
Whitelock, Mrs. Edward H.....
650 King's Highway, Wyandotte
Woodley, Mrs. Bernard J.....3271 Pale Avenue, Trenton
Worzniak, Mrs. Joseph J.....1639 Davis, Wyandotte

MIDLINE INCISION FOR CHOLECYSTECTOMY

(Continued from Page 1572)

References

1. Moore, H. G., Jr.: The midline incision for surgery of the gall bladder and common bile duct. Surgery, 35:440-442 (March) 1954.
2. Saint, J. H., and Braslow, L. E.: Removal of the xyphoid process as an aid in operations on the upper abdomen. Surgery, 33:361-366 (March) 1953.
3. Summers, J. E.: Abdominal incisions; present status in the United States. Am. J. Surg., 84:177-181 (Aug.) 1952.
4. Young, M. O.: The upper midline incision with a note on removing the xiphoid process. Northwest Med., 54:1087-1089 (Oct.) 1955.

when psychic symptoms distort the picture

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In everyday office practice as well as under hospital conditions Dartal is consistent in its effects as few tranquilizers are.

Dartal promotes emotional balance

Dartal effectively decreases or relieves emotional hyperactivity and psychomotor excitement.

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At a recent symposium, leading hepatologists* concluded that Dartal is not icterogenic or hepatotoxic.

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SEARLE

*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.

Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

DIABETES

Diabetes, for a long period of years, has ranked among the most common ways to die in Michigan. The record shows:

In 1930, it was the tenth leading cause of death.
In 1940, it was the eighth leading cause of death.
In 1949, it was the seventh leading cause of death.
In 1957, it was the sixth leading cause of death.

The Michigan diabetes death toll in 1957 was over 1,500. A comparison of death rates for the ten leading causes of death in the United States and in Michigan during 1956 shows that diabetes is the only leading cause of death in adults for which the Michigan rate is higher than the rate for the nation as a whole.

In terms of diabetes program, the specific objectives of the Michigan Department of Health are:

Screening.—To help screen selected groups of apparently healthy adults to discover evidence of previously unrecognized diabetes. The purpose of screening is to help get the patient to his doctor when the disease is in the early, asymptomatic stage, and also to contribute to scientific knowledge about the incidence and prevalence of diabetes.

Patient Services.—Upon referral by the practicing physician, to assist with the care and/or education of patients.

Professional and Public Education.—So far, a number of diabetes projects have been carried out with the co-operation of medical societies and local health departments and with individual practicing physicians. These include: mass diabetes detection campaigns which have reached 26,128 people since 1954; nutrition consultation to staffs of medical care facilities; a pilot project in training classes for diabetes patients referred by their physicians; home nursing services, including food and nutrition consultation by request of the physician; distribution of limited quantities of educational materials; and several training conferences on diabetes.

Plans for the Future

It is the intent of the department to continue to work with interested and responsible groups in co-operative efforts such as the following:

1. Screening
2. Morbidity studies, including prevalence and incidence within selected groups
3. Patient education, nutrition consultation and nursing service for the patient and his family upon referral by the practicing physician
4. Education to help create greater public and professional understanding of diabetes, and to further encourage the individual to assume responsibility for his own health and the health of his family
5. In-service training programs for community health agency personnel and others, emphasizing the supporting role of the health department in diabetes control.

Conclusion

The Department believes that diabetes is not only a major health problem today, but, because of the hereditary factor, will become increasingly important in the future.

Its interest is to ensure the most effective combination of private individual incentive and community resources to help practicing physicians meet this particular problem—the same kind of a mutually acceptable effort which has proved and established itself in so many other programs in the past.

CERTIFICATE OF DEATH

Section 326.9, Compiled Laws, 1948 reads in part as follows: "The attending physician or in the absence of an attending physician, the coroner shall fill out and sign the medical certificate of death or stillbirth within 24 hours after death. The funeral director shall then state over his signature and address the date and place of intended burial, cremation or to which such body is to be removed, and present the completed certificate to the registrar for a permit for burial, removal or other disposition of the body.

"The name of each person who signs the certificate of death or stillbirth as herein required shall be legibly printed, typewritten or stamped upon such certificate immediately beneath the signature of such person."

AAIT PRESIDENT

Don E. Gilbert, chief inhalation therapist at the University of Michigan Medical Center, was appointed president of the American Association of Inhalation Therapists at the annual meeting, Wednesday, November 12, 1958.

Gilbert organized the Inhalation Therapy Department at the University of Michigan in 1950. One of the first of its kind in the country, the department has become a model for hospitals throughout the United States. Gilbert is author of a handbook on inhalation therapy published this fall.

The AAIT is consponsored by the American College of Chest Physicians and the American Society of Anesthesiologists. It has 700 members in the United States and Canada.

In Memoriam

JAMES ETHELBERT DAVIS, M.D., eighty-eight, Dexter pathologist, died August 17, 1958.

A native of Woodstock, Ontario, Doctor Davis attended the Woodstock Collegiate Institute before studying pharmacy at the Detroit College of Medicine. After receiving the Degree of Ph.G., he entered the Detroit College of Medicine, graduating in 1896 with his M.D. degree. In 1917 he received an M.A. degree in Pathology from the University of Michigan, and in 1922 he attended the University of Vienna where he studied pathology, specializing in the field of obstetrics and gynecology.

In 1918, Doctor Davis became Professor of Pathology at Wayne University College of Medicine. Several years later he was appointed Professor of Pathology and Chairman of the Department. In this capacity he served until his retirement in 1940.

In 1922, he was president of the Wayne County Medical Society.

BERT U. ESTABROOK, M.D., seventy-eight, Detroit physician, died September 8, 1958.

Doctor Estabrook, a native of Detroit, was graduated from the Detroit College of Medicine in 1903 and had been a Detroit Deputy Health Commissioner for 25 years prior to his retirement in 1947.

He was a member of Phi Rho Sigma fraternity, the Detroit Athletic Club and the S.S. Peter and Paul Jesuit Church.

RAY L. FELLERS, M.D., seventy-one, Detroit physician, died September 12, 1958.

A native of Elliston, Ohio, Doctor Fellers was a Detroit resident for 46 years, was a graduate of the Detroit College of Medicine and staff physician at Mt. Carmel Mercy and Providence hospitals.

He was a member of the Michigan Sovereign Consistory of the Shrine, Clam Lake Lodge F&AM, and the Elks Lodge.

SHERMAN GREGG, M.D., seventy-eight, Kalamazoo physician for forty-four years, died August 27, 1958.

Born near Coloma, Doctor Gregg lived in Ann Arbor and St. Joseph before moving to Kalamazoo in 1914. He attended the University of Michigan, Rush Medical School, Chicago, and Harvard University. Doctor Gregg was a 33rd Degree Mason, the oldest past commander of Peninsular Commandery No. 8, Knights Templar.

He was past master of St. Joseph Lodge No. 437, F & AM; Fidelity Lodge No. 513 and Anchor Lodge of S.O. 87; a member of Chapter 13, Royal Arch Masons; Kalamazoo Council No. 63, R. & S.M.; past most wise master of the Robinson Chapter of Rose Croix; past sovereign of the St. Vincent Conclave of the Red Cross of Constantine; a member of the Royal Order of Scotland; and a member of Saladin Temple of the Shrine;

(Continued on Page 1606)

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SHERMAN GREGG, M.D.

(Continued from Page 1604)

and on the advisory board of DeMolay. He was also a member of the Quatuor Coronati, Corresponding Circle of London.

STEPHEN LEE HILEMAN, M.D., fifty-nine, Ecorse physician, died in the crash of his private plane, September 24, 1958.

Formerly Ecorse City Physician for ten years, he had practiced in Ecorse since his graduation from Wayne State University thirty years ago. He specialized in industrial surgery and was the physician for several downriver industrial concerns.

Doctor Hileman had been flying for nine years and had owned the plane in which he crashed for two years.

ALFRED E. HILLENBRAND, M.D., forty-nine, a Detroit general practitioner, died September 26, 1958. Doctor Hillenbrand was a staff member of Bon Secours Hospital. He was a graduate of Wayne State University Medical School and a World War II Air Force Captain.

ARCHIBALD E. MAC GREGOR, M.D., eighty-three, Battle Creek, died September 17, 1958. Born in Saginaw in 1875, Dr. MacGregor took teacher's training in Valparaiso, Indiana, and taught school for four years before undertaking his medical education. He graduated in 1901 from the Detroit College of Medicine and took his residency at Fort Street Hospital in Detroit.

Doctor MacGregor maintained memberships in Masonic Orders, the Athelstan Club, Rotary Club and the Battle Creek and Gull Lake Country Clubs.

DONALD H. McRAE, M.D., seventy-five, Detroit physician for fifty-three years, died September 8, 1958. A native of Wilksport, Ontario, Doctor McRae was a 1905 graduate of Wayne Medical School. For the last nine years, he had operated the Lincoln Clinic of Detroit.

He was a member of Scottish Rite, James A. Cliff Lodge No. 424, F. & A.M. He served as a first lieutenant in the Medical Corps in World War I and was attached to the Mayo and Ford Hospital units.

CLAUDE V. RUSSELL, M.D., seventy-seven, Lansing surgeon for fifty years, died September 25, 1958.

Reportedly the first Michigan physician to use radium in private practice for the treatment of cancer, Doctor Russell received his medical education from the University of Wisconsin, University of Chicago and Rush Medical College.

A native of Wisconsin, he had made his home in Lansing for the past fifty years, and was a member of Rotary, Masonic Lodge and Plymouth Congregational Church.

Doctor Russell, during his long active medical career, had been chief of staff at St. Lawrence and Edward W. Sparrow Hospitals.

(Continued on Page 1608)

(Continued from Page 1606)

EARL R. SWIFT, M.D., seventy-five, Lakeview physician, died August 5, 1958. A native of Cleveland, Ohio, Doctor Swift spent the past thirty-four years of his life in Lakeview.

GORDON L. WILLOUGHBY, M.D., fifty-eight, a Flint surgeon, died September 25, 1958.

Born in Chesley, Ontario, Doctor Willoughby received his medical degree from the University of Manitoba before moving to Flint in 1926. During World War II, the Army assigned him to the 15th Evacuation Hospital throughout the Tunisian, Sicilian and Italian campaigns. Attaining the rank of major, he served directly behind the front lines. In the Anzio beachhead, he slept in foxholes and performed operations in the midst of battle.

Doctor Willoughby was on the staffs of Hurley, McLaren General and St. Joseph Hospitals.

RUSSIAN MEDICAL DICTIONARY

The Russian-English Medical Dictionary compiled by Stanley Jablonski of the National Library of Medicine staff is now off the press. It is available at $11, from Academic Press, Inc., 111 Fifth Avenue, New York 3, New York.

. . . . . NEWS MEDICAL

MICHIGAN AUTHORS

Walker A. Lea, Jr., M.D., Temple, Texas, and **William B. Taylor, M.D.,** Ann Arbor, are the authors of an article entitled "Gamma Globulin In The Treatment of Herpes Zoster," published in *Texas State Journal of Medicine*, August, 1958.

Richard M. Berg, M.D., and **Joseph O. Reed, M.D.,** Detroit, are the authors of an article entitled "Congenital Tracheo-esophageal Fistula Without Stresia of the Esophagus," published in the *Harper Hospital Bulletin*, July-August, 1958.

J. C. Cook, M.D., K. L. Krabbenhoft, M.D., and **R. Songe, M.D.,** Detroit, are the authors of an article entitled "Solitary Benign Cyst-like Lesions Of The Long Bones in Children," published in *Harper Hospital Bulletin*, July-August, 1958.

W. S. Reveno, M.D., Detroit, is the author of an article entitled "Gleanings—1958 Meeting, American Goiter Association," published in *Harper Hospital Bulletin*, July-August, 1958.

H. C. Moritz, M.D., Detroit, is the author of an article entitled "Unusual Lesions In The Newborn—Case Report," published in *Harper Hospital Bulletin*, July-August, 1958.

John S. DeTar, M.D., Milan, is the author of an editorial entitled "The Family Physician, Which Doctor?," published in *Current Medical Digest*, August, 1958.

Kenneth W. James, M.D., and **John B. Tisserand, Jr., M.D.,** Ann Arbor, are the authors of an article entitled "Treatment of Acne Vulgaris," published in *GP*, September, 1958.

Christian Helmus, M.S., Grand Rapids, is the author a paper entitled "Acute Otitis Media in Children," published in the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY and digested in *Digest of Ophthalmology and Otolaryngology*, September, 1958.

Reed O. Dingman, M.D., F.A.C.S., Ann Arbor, is the author of an article entitled "Surgical Treatment of Defects of the Scalp," read at the Twenty-second Annual Congress of the United States and Canadian Sections, International College of Surgeons, Chicago, September 9 to 13, 1957, and published in *The Journal of the International College of Surgeons*, August, 1958.

Harold A. Oberman, M.D., and **Graydon A. Long, M.D.,** Ann Arbor, are the authors of an article entitled "Liposarcoma of the Mediastinum," published in the *University of Michigan Medical Bulletin*, July, 1958.

Sheff D. Olinger, M.D., Robert D. Currier, M.D., and **Russell N. DeJong, M.D.,** Ann Arbor, are the authors of an article entitled "Clinical Experience with Chlorzoxazone (Paraflex) in Neurotic Disorders," published in the *University of Michigan Medical Bulletin*, July, 1958.

Robert G. Lovell, M.D., Ann Arbor, is the author of an article entitled "Evaluation of the Ethical Performance of Medical Students by Their Peers," published in the *University of Michigan Medical Bulletin*, July, 1958.

Leonard E. Himler, M.D., Ann Arbor, is the author of an article entitled "Motivation of the Patient in Rehabilitation," presented before the Conference on Rehabilitation of the Patient at Home or in Nursing Homes, May, 1958, Ann Arbor, and published in *Industrial Medicine and Surgery*, September, 1958.

Carl H. Almond, M.D., and **Robert E. L. Berry, M.D.,** Ann Arbor, are the authors of an article entitled "Significance of the Fall of Serum Sodium Following Operative Trauma," read at the Fifteenth Annual Assembly of the Central Surgical Association, Columbus, Ohio, February, 1958, and published in *A.M.A. Archives of Surgery*, September, 1958.

Steven J. Figiel, M.D., Leo S. Figiel, M.D., and **Desmond K. Rush, M.D.,** Detroit, are the authors of an article entitled "High Kilovoltage Spot Compression Studies: New Approach to Colonic Polyp Detection," published in *Medical Radiology and Photography*, Volume 34, No. 2, 1958.

J. H. Ahronheim, M.D., Jackson, is the author of an article entitled "Medicine and Religion," presented before the Jackson County Medical Society, February 19, 1957, and published in the *Mississippi Valley Medical Journal*, September, 1958.

* * *

The American Congress of Physical Medicine and Rehabilitation will hold its thirty-seventh annual scientific and clinical session August 30 to September 4, 1959, inclusive, at the Hotel Leamington, Minneapolis.

Scientific and clinical sessions will be given August 31, September 1, 2, 3 and 4. All sessions will be open to members of the medical profession in good standing with the American Medical Association and/or state or county medical association.

Full information may be obtained by writing to the Executive Secretary, Dorothea C. Augustin, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

* * *

Bernard M. Baruch Essay Award is being offered to stimulate interest in the field of physical medicine and rehabilitation by the American Congress of Physical Medicine and Rehabilitation. A prize for an essay on any subject relating to physical medicine and rehabilita-

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tion will be awarded annually. The contest, while open to anyone, is primarily directed to interns, residents, graduate students in the pre-clinical sciences and graduate students in physical medicine and rehabilitation. Reprints covering the rules and regulations of these two awards are available.

WALTER J. ZEITER, M.D., Executive Director
American Congress of Physical Medicine and Rehabilitation

* * *

The MSMS House of Delegates, in September 1957, authorized a committee of the Council to select a site and make arrangements for a new headquarters office building to house the Michigan State Medical Society. Many sites were studied over many months and finally a place was selected on the northwest corner off M78 as it goes through Lansing and Abbott Road. The site is something over three acres, has a slight elevation in it, a few trees, and a very commanding area. An architect was selected and the first model of the structure shown to the Council meeting in July. The scale model of the proposed building and the site was presented to the House of Delegates and any who wished to see it at the meeting in September and October, 1958, at Detroit. This model was in the grand ballroom for all to see. The plan was selected and accepted and details are being drawn up to be put out for bids at the first opportune time after considering labor, materials and construction business so as to get the most favorable conditions. For a couple of years the Society has been setting aside a certain amount of each member's dues in the nature of a special assessment to accumulate a building fund. This plan will continue for two or three more years and even longer, if necessary.

The present cost is more than anticipated when the project was first started. The building will have offices for the secretarial, administrative and public relations staffs, stenographic pool, storage spaces and a board room sufficiently large to accommodate many committee meetings, including the Council; also a president's room which can be used as a conference room, and an editor's room which can also double as a conference room. It is hoped to have this structure well toward completion in 1959.

* * *

The final business of the MSMS House of Delegates was the election of officers in the wee small hours of Wednesday morning, October 1, 1958, the clock having been stopped at midnight. Wm. L. LeFevre, M.D., Muskegon, Councillor of the Eleventh District, B. T. Montgomery, M.D., Sault Ste. Marie, Councillor of the Twelfth District, and T. P. Wickliffe, M.D., Calumet, Councillor of the Thirteenth District, were all re-elected to new terms.

W. B. Harm, M.D., Detroit, Councillor of the Seventeenth District, declined re-election and was succeeded by Warren W. Babcock, M.D., Detroit. J. F. Beer, M.D., of St. Clair, Councillor of the Seventh District, resigned for personal reasons and Charles W. White, M.D., of Port Huron was elected to succeed him.

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Delegates to the American Medical Association.—W. D. Barrett, M.D., Detroit, and R. L. Novy, M.D., Detroit, incumbents, were re-elected. W. H. Huron, M.D., of Iron Mountain desired to retire and George W. Slagle, M.D., of Battle Creek was elected in his place. The order of preference was Novy, Barrett, Slagle.

Alternate Delegates to the American Medical Association.—John R. Rodger, M.D., declined re-election and George W. Slagle, M.D., was advanced to delegate. The election and the order of precedence were Luther R. Leeder, M.D., Detroit, Wm. Bromme, M.D., Detroit, and Ralph Shook, M.D., of Kalamazoo.

The President-elect was Milton A. Darling, M.D., of Detroit. The Speaker, Ken Johnston, M.D., of Lansing, and the Vice-speaker, J. J. Lightbody, M.D., of Detroit, were both re-elected.

* * *

Blue Shield Board Elections were held at the meeting of *members of the corporation,* Tuesday afternoon, September 30, 1958.

Board of Directors:

Three-Year Terms:

Mr. Waldo I. Stoddard
Max L. Lichter, M.D.
Edwin H. Fenton, M.D.
G. Thomas McKean, M.D.
George W. Slagle, M.D.
Carleton Fox, D.D.S.
Gilbert B. Saltonstall, M.D.
John M. Wellman, M.D.
B. M. Harris, M.D.

Two-Year Terms:

Mr. Robert A. Frye
William S. Carpenter, M.D.
W. H. Huron, M.D.

Michigan Hospital Association Representatives

Three-Year Terms:

Mr. Ronald Yaw
Mr. Franklin D. Carr

At the first Executive Board meeting of Michigan Medical Service on Wednesday, October 8, 1958, the following officers were elected:

President—L. Fernald Foster, M.D.
Vice-president—Donald W. Thorup, M.D.
Secretary—G. Thomas McKean, M.D.
Treasurer—Waldo I. Stoddard

* * *

The Bons Secours Hospital eleventh annual Clinic Day Program was held on September 24, 1958. The Annual Award of Merit was presented to Dr. Ira George Downer of Riverside Clinic, Detroit.

* * *

The Blue Cross Commission of the American Hospital Association and the **Blue Shield Medical Care Plans** held a session on enrollment and public relations at the Edgewater Beach Hotel, Chicago.

On the closing day, September 19, the annual awards were announced in various membership groupings. The gold trophy for Plans with more than 500,000 members

(Continued on Page 1616)

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Medical Products Division

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(Continued from Page 1614)

went to the Associated Hospital Service of Philadelphia. The gold trophy for 200,000 to 500,000 members went to the Hospital Service Plan of Lehigh Valley, Allentown, Pa. In Plans with under 200,000 members, the Blue Cross and Blue Shield Plans of Phoenix, Arizona, won first prize. Michigan Hospital Service was one of the other seventeen receiving honorable mention.

* * *

The National Foundation, formerly the National Foundation for Infantile Paralysis on September 23, announced the new virus research awards amounting to $1,643,233. Twenty-one grants were made for the "March of Dimes Virus Research"; $9,490 went to Institut Pasteur in Paris—the smallest grant. The University of Pittsburgh received the largest grant, $262,000. There were no grants for Michigan.

* * *

The Medical Science and School of Nursing Building in the Medical Center provides classrooms and laboratories for several departments of the Medical School and School of Nursing, Ann Arbor. It contains 279,871 square feet and was built at a cost of $8.5 million in state appropriations.

* * *

Marion S. DeWeese, M.D., associate professor of surgery at the U-M Medical Center, has recently returned from a two-month stay at the University of Antioquia in Colombia, South America, where he gave general surgical lectures to medical students and staff.

His visit was part of the Rockefeller Foundation's educational program in support of South American Medical Schools.

"Their teaching program is similar to ours," Dr. DeWeese said. "But I saw types of surgical diseases that we rarely, if at all, see here, and observed surgery under different conditions."

Others from the Medical Center have visited the University of Antioquia. Dr. Arthur C. Curtis of the Dermatology Department is there now. Previous lecturers include Dr. Robert Berry, surgery; Dr. William H. Murphy, Jr., bacteriology; Dr. Joseph Chandler, biological chemistry; and Drs. Robert Bolt, H. Marvin Pollard and Jere Bauer of internal medicine.

* * *

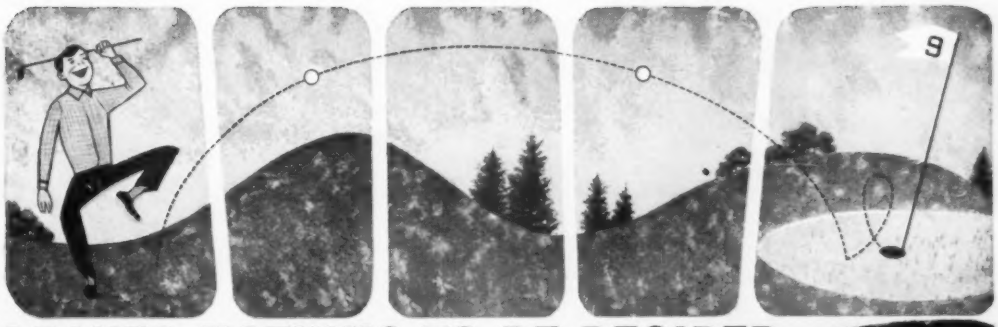
The American Academy of Physical Medicine and Rehabilitation is pleased to announce the election of the following officers for 1958-59:

Louis B. Newman, M.D., Chicago, President
Clarence W. Dail, M.D., San Gabriel, Calif., President-Elect
Ray Piaskoski, M.D., Wood, Wis., Vice-president
Harriet E. Gillette, M.D., Atlanta, Ga., Secretary
James W. Rae, Jr., M.D., Ann Arbor, Mich., Treasurer
Dorothea C. Augustin, Chicago, Executive Secretary

* * *

Dr. Christopher Parnall, former director of University Hospital, received an honorary award, and **Dr. Hsi-Yen Liu**, for the second time, won the senior award pre-

(Continued on Page 1618)



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Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Adult Dosage: one teaspoonful q. 6 h. May be habit-forming.
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(Continued from Page 1616)

sented at the annual University of Michgan Medical Honors Convocation, Sept. 22, 1958.

The awards were given in Rackham Auditorium by Dr. Albert C. Furstenberg, dean of the Medical School. They were preceded by an address by President Harlan Hatcher and an introductory note by Regent Charles S. Kennedy.

Dr. Parnall, director of University Hospital from 1918 to 1924, was honored for his vision in laying the grounds for the Medical Center and for his pioneering concepts in hospital administration. He received his undergraduate and M.D. from the U-M.

The presentation of the senior award to Dr. Lieu for the second successive year represents the first time in the history of the award that the same person has received it twice.

* * *

Guy Nunn conducts a so-called "Wake-up" broadcast representing UAW-CIO over CKLW between 6 and 7 in the morning. On Tuesday morning, September 30, he conducted a question and answer period with a woman's voice "Pat" asking questions and he answered.

He stated that ten or fifteen years ago, there was a differential of three years between the expected life of men and women in the United States. Women lived longer because they secured reasonable exercise in their daily work. They do not expose themselves to risky occupations or much inclement weather and in spite of the fact that they have to pay, they do consult the doctors from two to three times as much as men. At the present time, their life expectancy is seventy-three years while that of men is sixty-seven, in the United States. A differential now of six years, which, unless fundamental conditions are changed in another ten or fifteen years, might double in that time. The expectant age of women in the United States is the longest in the world. Men are not so fortunate; they take risks women do not; their work is more hazardous, and they do not go to doctors except for major things.

Pat asked, *Is there a reason for this difference?* The answer was *"Yes, while women are the longest-lived in America, men rank way down the line.* In several countries, life expectancy is longer for both men and women and Nunn enumerated several countries—England, Denmark, and others. The reason is very simple. There is national government health insurance, so that the men do not have to spend any money to consult their doctors; since there is no hesitancy, health is better and life longer.

* * *

"It is known that radiation can be dangerous but *fire* can be dangerous also. It is a matter of control. It is a fact that for centuries mankind has lived with an amount of radiation some thirty times greater than the fallout to this date from nuclear tests. It is also

(Continued on Page 1620)

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a fact that modern man has received a great deal more radiation over his entire body from x-ray and fluoroscopic examination than from nuclear fallout.

In the medical profession it is known that radiation is an effective treatment for certain diseases and a necessary accompaniment of important diagnostic procedures. It cannot be discontinued nor should it be indicted indiscriminately. It is necessary to evaluate potential *dangers* against possible benefits."—LOUIS M. ORR, M.D., President A.M.A. at *World Medical Association.*

* * *

The Eighth Annual Symposium on Blood will be held at Wayne State University, Detroit, on January 16 and 17, 1959. The presentation of papers is scheduled to begin at 9 a.m., Friday. Facilities for a group dinner and social get-together are being reserved for Friday evening. Saturday, the scientific session will be from 9 a.m. until 12 noon. The schedule provides ample time for the audience to discuss contributions of the invited speakers. Arrangements have been made to publish abstracts of the papers in *Thrombosis et Diathesis Haemorrhagica.*

This year, the Symposium moves from the downtown medical center to the McGregor Memorial Conference Center, located on the main campus (Second Avenue at Ferry). This building is a creation of architect Minoru Yamasaki and represents a new departure from both the traditional and the modern in University architecture. The building gives the impression of two temples connected by a glass hall, and the play of light and shadows endows it with warmth, beauty and dignity. In this setting the organizing committtee hopes to attain a new high level mark in science living appropriate to the achievements and contributions of our colleagues.

Everyone interested is cordially invited to attend.—WALTER H. SEEGERS, *Chairman;* ELWOOD A. SHARP, and J. FREDERIC JOHNSON.

* * *

Wayne State University College of Medicine reports the largest freshman enrollment in its eighty-year history—125 men and women began classes September 15, 1958.

Legislative approval followed by consent of the University's Board of Governors to spend the money for the fifty-student increase came last spring.

This action followed two years of concentrated effort by medical, health and community groups to train more doctors in the wake of a serious shortage.

Prior to 1950, Wayne College of Medicine enrolled between sixty-five and sixty-eight freshmen. Since 1951 the enrollment has been seventy-five freshmen.

Effects of this increase will not be felt until this group graduates in 1962.

(Continued on Page 1622)

(Continued from Page 1620)

The following officers have been elected for the 1958-1959 year from the Houghton-Barage-Keweenaw County Medical Society:

President, F. E. Kolb, M.D., Calumet, Michigan
President-elect, H. J. Winkler, M.D., L'Anse, Michigan
Secretary-Treasurer, M. S. Williams, M.D., Houghton, Michigan
Delegate to MSMS, P. S. Sloan, M.D., Houghton, Michigan
Alternate Delegate, L. C. Aldrich, M.D., Houghton, Michigan
Member Board of Ethics, F. S. Hosking, M.D., Laurium, Michigan
Judicial Councilman, A. B. Aldrich, M.D., Hancock, Michigan

* * *

The Michigan Association of Blood Banks held its fourth annual meeting on October 18, 1958 in the auditorium of David Whitney House, headquarters of the Wayne County Medical Society. Leo W. Walker, M.D., Lansing, President of the Michigan Association of Blood Banks, gave the welcome address. The program chairman was Frank R. Ellis, M.D., Detroit.

* * *

Changing trends in the public health movement and their impact on the operating programs of public health agencies and teaching programs in public health schools will be studied by The University of Michigan School of Public Health.

The research will be financed by a five-year grant of $167,620 from the W. K. Kellogg Foundation, Battle Creek. The study will be undertaken by the newly organized research and teaching service of the U-M School of Public Health, which will be under the direction of Hugh B. Robins, M.D.

Dr. Robins comes to the new position from his post as health director of Calhoun County, including the city of Battle Creek. His appointment to the position of professor of public health practice was effective Oct. 1.

Dr. Robins has been a non-resident lecturer in the School of Public Health and has participated annually in the basic course in public health practice. He has held the Calhoun County position for approximately twenty years. Prior to that, he was health commissioner of Charleston, West Virginia.

Commenting on the studies, Dean Henry F. Vaughan made the following statement:

"Unquestionably the total vista of the public health program is undergoing a remarkable change. The programs for the control of the common communicable diseases have undoubtedly passed their zenith, especially now that we have the Salk vaccine for infantile paralysis and new vaccines are becoming available for the common respiratory diseases.

"As a consequence of these conservations in the earlier years of life, increased attention is being given to the chronic diseases, cancer, heart disease, diabetes,

(Continued on Page 1624)

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arthritis and mental health. All of these changes in emphasis require a review of the pattern under which community organizations, both official and voluntary, should approach the new look of health conservation and promotion.

"The characteristics of the health department and its services will be remolded to accommodate the new problems. This will influence the pattern for the training of physicians, nurses, dentists, engineers, and men of sanitary science. There is need of research and experimentation. There is need of greater team work between the staff of the official health department, the voluntary agencies and the free enterprise as represented by industry and the private practice of medicine and dentistry. It will be studies of this kind which will be undertaken under the direction of Dr. Robins."

Dr. Robins was born in Claremont, West Virginia, on Nov. 3, 1899, and is a 1924 graduate of University of Cincinnati Medical School. He assumed his Calhoun County position in 1937, living in Marshall. The city and county health commissionerships were combined in 1944 and since 1948 Dr. Robins has lived in Battle Creek.

His resignation from the Calhoun County position will be effective November 1. During October, he will be "on loan" to fulfill the position with the U-M School of Public Health.

* * *

While the Salk vaccine has saved thousands from crippling in the past three years, thousands of others have escaped paying the toll of paralytic polio only through sheer luck, according to the 1957 Annual Report issued by the National Foundation. The statistical analysis heavily underscores the danger of neglecting these inoculations.

The report shows that from an annual average of 38,727 cases of paralytic polio in the five years preceding the Salk vaccine, there was a decline to 28,985 cases in 1955, to 15,140 in 1956 and to 5,894 in 1957.

At the end of 1957 there were two out of every five persons under forty years of age, the susceptible age group, who still had received no vaccine.

* * *

The Tuberculosis and Health Society of Wayne County has established a tuberculosis research fund with Christmas Seal donations and memorial gifts to further medical research in the state, Richard L. Lea, executive secretary, announced.

Projects eligible to receive grants will be designed to contribute better understanding of the behavior, prevention, and control of tuberculosis. Research projects must be conducted in connection with a qualified Michigan school or institution.

Arthur Vorwald, M.D., Professor of industrial medicine at Wayne State University's College of Medicine, is

(Continued on Page 1626)

(Continued from Page 1624)

chairman of the medical research committee, which will make the grants. Also serving on the committee are G. Thomas McKean, M.D.; Walter Nungester, M.D., chairman of the Department of Bacteriology, University of Michigan College of Medicine; Lester K. Kirk, president of the Standard Accident Insurance Company; and Paul T. Salcow, M.D., medical director of Herman Kiefer Hospital.

The fund is made up of gifts given to the TB and Health Society in memory of deceased tuberculosis patients or to honor a friend or relative who has recovered from the disease. Some contributions come from individuals and business firms who make charity donations instead of sending Christmas gifts or cards. Part of the fund is Christmas Seal money from the annual sale in November.

"Although tuberculosis is one of man's oldest disease enemies, its baffling nature has foiled researchers in many efforts. Knowledge of tubercule bacilli is increasing, and treatment has improved rapidly in the past eight years. But there still is no vaccine practical for mass use, and much needs to be known about certain germ strains that become immune to modern drug therapy," reports Lea.—MICHIGAN TUBERCULOSIS ASSOCIATION.

* * *

The American Board of Obstetrics and Gynecology, Part I Examinations are to be held in various parts of the United States and Canada, on Friday, January 16, 1959, at 2:00 p.m.

Candidates notified of their eligibility to participate in Part I must submit their case abstracts within thirty days of notification of eligibility. No candidate may take the written examination unless the case abstracts have been received in the office of the Secretary.

Current bulletins outlining present requirements may be obtained by writing to the Secretary's office: Robert L. Faulkner, M.D., American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

* * *

C. G. Menzies, M.D., Director of Michigan State University's Health Service since 1953, is returning to practice in the field of ear, nose and throat medicine, within the University's Olin Memorial Hospital.

Filling the new position of hospital manager is Mr. Richard Holman, and serving as Medical Director is James S. Feurig, M.D.

* * *

The House of Delegates of the American Hospital Association, at its meeting in Chicago in August, adopted a statement of policy with respect to meeting hospital needs of the aged, as follows:

1. The American Hospital Association is convinced that retired aged persons face a pressing problem in financing their hospital care.

2. It believes that federal legislation will be necessary to solve the problem satisfactorily. It has, however,

(Continued on Page 1628)

Annual Clinical Conference

CHICAGO MEDICAL SOCIETY

March 2, 3, 4, and 5, 1959

Palmer House, Chicago

Daily Half-Hour Lectures by Outstanding Teachers and Speakers on subjects of interest to both general practitioner and specialist.

Panels on Timely Topics **Teaching Demonstrations**

Medical Color Telecasts

Scientific Exhibits wohtry of real study and helpful and time-saving Technical Exhibits.

The Chicago Medical Society Annual Clinical Conference should be a MUST on the calendar of every physician. Plan now to attend and make your reservation at the Palmer House.

(Continued from Page 1626)

serious misgivings with respect to the use of compulsory health insurance for financing hospital care even for the retired aged.

3. It believes that all possible solutions must be vigorously explored, including methods by which the dangers inherent in the Social Security approach can be avoided.

4. It believes that every realistic effort should be made to meet the hospital needs of the retired aged principally through mechanisms utilizing existing systems of voluntary prepayment. However, it is conceivable that the use of Social Security to provide the mechanisms to assist in the solution of the problem of financing these needs may be necessary ultimately.

5. It believes that any legislation developed to provide for government participation to meet the hospital needs of the retired aged should be so devised as to strengthen the voluntary prepayment systems, and should conform to the following principles:

(a) Legislation designed to provide for the hospital needs of the retired aged should provide essential hospital services and should exclude custodial care provided for nonmedical reasons.

(b) Government participation should be restricted to persons over sixty-five who are not regularly and substantially employed. The voluntary prepayment system provides a satisfactory mechanism for the coverage of other persons, regardless of age.

(c) Any program in which the federal government participates to meet the hospital needs of the nonindigent aged should emphasize individual responsibility and make the application of a means test unnecessary for obtaining benefits.

(d) Such a program should be based on the service benefit principle and should provide benefits sufficiently comprehensive to remove the major economic barriers to hospital care for the retired aged.

(e) Such a program should make benefits available through nonprofit prepayment plans.

(f) Hospitals should be paid fully for the cost of care rendered.

(g) Such a program should not provide services in facilities operated by the federal government.

(h) Such a program should provide reasonable criteria to determine the eligibility of hospitals to participate, but the federal government should be precluded from interfering in the administration and operation of hospitals providing the services.

(i) Such a program should maintain the free choice of doctor and hospital by the recipient.

(j) Such a program should permit and encourage continuous adaptation to new knowledge in the provision of services.

* * *

The A.M.A. and the Sears-Roebuck Foundation have co-operated in the preparation of a guidebook for the young physician, entitled "The Business Side of Medical Practice." The booklet offers help to physicians in making their own decisions on the business side of their prac-

tices and to put them on the track of other sources of information. Copies of the booklet may be secured from the American Medical Association, 535 N. Dearborn St., Chicago 10, Illinois.

* * *

C. J. Stringer, M.D., Lansing, was elected 1958-59 President of the Michigan Tuberculosis Association at its recent 51st Annual Meeting.

Congratulations, Dr. Stringer!

* * *

The Health Insurance Council reports the number of people in Michigan covered by voluntary health insurance has reached a new high! More than 6,338,000 persons in this state are now protected by some form of insurance designed to help pay hospital and doctor bills.

The number of people covered by some form of health insurance in the nation is estimated at 123,000,000, or 72 per cent of the total U. S. civilian population.

* * *

Mr. Kurt Mikat, medical student at the University of Michigan, has been awarded a $500 scholarship for research and clinical training, under the direction of John M. Sheldon, M.D., Professor of Internal Medicine, Head of the Dept. of Allergy and Chairman of the Department of Postgraduate Medicine, University of Michigan; The Allergy Foundation of America made the award, one of twenty-two in medical schools throughout the United States and Canada.

Living costs have gone up an average 105 per cent in the twenty years since 1938. On an average, you must pay $2.05 today for something you could have bought for a dollar back in 1938. Hospital costs have risen 33 per cent.

* * *

Ubiquitous Hosts.—The following Wayne County doctors of medicine placed themselves at the disposal of the guest essayists at the 1958 Annual Session of the Michigan State Medical Society in Detroit: C. P. Anderson, M.D., C. D. Benson, M.D., I. C. Berlien, M.D., D. T. Burton, M.D., D. A. Cameron, M.D., W. B. Cooksey, M.D., J. E. Croushore, M.D., P. L. Cusick, M.D., Stella Delani, M.D., M. S. Dennis, M.D., P. R. Dumke, M.D., W. S. Haubrich, M.D., C. G. Jennings, M.D., Benjamin Juliar, M.D., W. F. Kujawski, M.D., W. R. Moore, M.D., H. V. Morley, M.D., H. M. Nelson, M.D., Alice Palmer, M.D., T. A. Petty, M.D., A. H. Price, M.D., Saul Rosenzweig, M.D., W. J. Scott, M.D., N. M. Taylor, M.D., and E. A. Wishropp, M.D.

Sincere thanks and appreciation are due these generous hosts for showing the meaning of Mich ;an hospitality to the eminent speakers at the MSMS convention.

* * *

Joe V. Meigs, M.D., Boston, Massachusetts, is scheduled to be the Michigan Cancer Co-ordinating Committee Lecturer on Wednesday, March 11, 1959, at the Michigan Clinical Institute scheduled for the Sheraton-Cadillac Hotel, Detroit, Tuesday noon through Friday noon, March 10-13.

Swiss-born Theophrastus Bombastus von Hohenheim, who called himself Paracelsus and was a controversial figure from 1493 to 1541, is the subject of the eleventh oil painting in the Parke, Davis & Company's "History of Medicine" series. The painting is one of forty by the artist Robert Thom of Birmingham, Michigan, depicting the evolution of medicine.

* * *

The Michigan Board of Nursing announces the appointment of Mrs. Jean Webster, R.N., Consultant, and Mr. Hugh A. Clarkin, Investigator. Mrs. Webster will assist with registration and licensure of nurses, the planning of conferences and workshops and also interpret legal requirements in nursing.

* * *

The Medical Science and School of Nursing Building is being used for the first time this autumn on the University of Michigan campus. The building provides classrooms and laboratories for several departments of the Medical School and School of Nursing.

* * *

Maj. Gen. Paul I. Robinson, M.C. has been appointed Co-ordinator of Medical Relations for the Metropolitan Life Insurance Company. Dr. Robinson is best known for his organization and administration of the Office for Dependents' Medical Care (Medicare) in the Office of the Surgeon General of the U. S. Army.

Congratulations and best wishes, Doctor Robinson!

* * *

Laurence F. Segar, M.D., Detroit, has been reappointed Governor for the State of Michigan to the Board of State Governors of the American Diabetes Association.

* * *

The Sixth Bahamas Medical Conference is scheduled for November 28 through December 18; the First Bahamas Surgical Conference will be from December 29 to January 17; and the Serendipity Session is January 18 until January 31. All are scheduled for the British Colonial Hotel in Nassau where reduced rates are available, provided reservations are made through the Bahamas Conferences, P.O. Box 4037, Fort Lauderdale, Florida.

Programs may be obtained from B. L. Frank, M.D., Organizing Physician, 23 East 79th Street, New York 21, N. Y.

* * *

The Sister Elizabeth Kenny Foundation announces continuation of its program of post doctoral scholarships to promote work in the field of neuromuscular diseases. These scholarships are designed for scientists at or near the end of their fellowship training in either basic or clinical fields concerned with the problem of the neuromuscular diseases.

For details write E. J. Huenekens, M.D., Medical Director, Sister Elizabeth Kenny Foundation, Inc., 2400 Foshay Tower, Minneapolis 2, Minnesota.

* * *

The Veterans Administration warns that physicians and hospital administrators should not assume that Veterans Administration can pay bills for care of Spanish-American War Veterans in non-VA hospitals.

If hospitalization by a Spanish-American War veteran is requested, the nearest VA office should be contacted.

Christopher Parnall, M.D., former Director of the University of Michigan Hospital, recently was presented an award by Albert C. Furstenberg, M.D., Dean of the Medical School, for his vision in laying the grounds for the Medical Center and for his pioneering concepts in Hospital administration.

* * *

Mrs. E. I. Carr of Lansing was inducted as President of the Woman's Auxiliary to the International College of Surgeons at ceremonies in Chicago on September 19.

* * *

The National Institute of Mental Health announces two new programs for general practitioners who wish to receive postgraduate training in psychiatry or who may wish to undertake residency training in order to become psychiatrists.

Inquiries about this grant support program should be sent to Seymour D. Vestermark, M.D., Chief, Training Branch, National Institute of Mental Health, National Institutes of Health, Bethesda 14, Maryland.

* * *

The U. S. Public Health Service reported the number of people in the United States without ready access to general hospitals has dropped from 10 million to 2.8 million since 1948.

* * *

The Frank E. Bunts Educational Institute affiliated with The Cleveland Clinic Foundation announces a symposium on Medical Technology co-sponsored by the Cleveland Society of Medical Technologists. The symposium will be held at the Frank E. Bunts Educational Institute, 2020 E. 93rd Street, Cleveland 6, Ohio, November 20-21.

* * *

The annual clinical meeting of the Frederick A. Coller Surgical Society was held at St. Joseph Mercy Hospital in Ann Arbor on October 3 and 4. The Society consists of 183 surgeons who trained under Dr. Coller at the University of Michigan.

* * *

The first Athletic Injury Clinic was held at the University of Michigan Medical Center on October 11. Speakers included E. A. Kahn, M.D., R. W. Bailey, M.D., and E. F. Wolfman, M.D., from the Medical Center's Department of Surgery. R. B. Nelson, M.D., Ann Arbor, moderated the morning program.

The purpose of the conference is to keep high school coaches up to date on the latest medical developments in preventing, treating and minimizing the effects of athletic injuries.

* * *

H. H. Gay, M.D., of Midland has been appointed by Governor G. Mennen Williams to the Michigan State Board of Alcoholism.

Congratulations Dr. Gay.

* * *

The Michigan Cancer Co-ordinating Committee sponsored seven speakers on various phases of cancer control at the October-November district training schools of the Michigan Division, American Cancer Society. Speakers and cities where these lay education confer-

ences were held were: Wm. B. Kirtland, M.D. of Detroit, in Port Huron on September 30; Joseph A. Preston, M.D. of Jackson, in Battle Creek on October 2; Harold L. Fachnie, M.D. of Detroit, in Saginaw on October 7; H. B. Latourette, M.D. of Ann Arbor, in Grass Lake on October 16; Dale L. Kessler, M.D. of Grand Rapids, in Traverse City, on October 28; Walter A. Stryker, M.D. of Wyandotte, in East Tawas on October 29; Arthur H. Joistad, M.D. of Muskegon, in Holland on November 5.

* * *

Earl E. Weston, M.D., Detroit, was the subject of the following comment in "The Town Crier," the popular *Detroit Free Press* column edited by Mark Beltaire:

Dr. Earl Weston, a ham radio operator, has added another hobby. He takes pictures of certain participants on TV shows with a Polaroid camera, then sends them the shots. He buys the fastest film available and opens the camera to its widest stop, then shoots from three feet in front of his TV set. Last week he obtained 10 shots of local doctors taking part in the Michigan State Medical Society Meeting, came up with some exceptional results.

Dr. Weston started photographing his TV screen some time ago to prove to skeptical friends that his set was capable of pulling in out-of-town stations. So far he has pictured proof of receiving KDKA-TV, Pittsburgh; WTVN-TV, Columbus; WSPD-TV, Toledo; WJW-TV and WEWS-TV in Cleveland; CFPL-TV, London, Ont.; WNEM-TV, Bay City; WJIM-TV, Lansing, and WICU-TV, Erie, Pa.

* * *

In the annual campaign for funds to support community projects in social welfare and assistance to the handicapped, the National Library of Medicine was the first organizational unit of the Public Health Service to exceed its quota and among the first to conclude the campaign ahead of schedule. In recognition of this achievement, a citation was presented to the employees of the Library by the Surgeon General of the Public Health Service.

MEDICAL TELEVISION SHOWS

Produced by Michigan Health Council

September 7 Muscular Dystrophy (Films—"The Other Half of the Team" and "Where the Green Grass Grows")
September 14 To Save a Life (Film—"To Save a Life")
September 21 Cerebral Palsy (Films—"What Is Cerebral Palsy" and "Frontiers of Science")
September 28 M.D. Placement (Film—"A Citizen Participates")

M.D. LOCATIONS

Through September 30, 1958

Placed by Michigan Health Council.—Roland L. Phillips, M.D., Owosso; Ralph A. Cram, M.D., Albion.
Assisted by Michigan Health Council.—Willard D Den Houter, M.D., Plymouth.

Communication

Dear Dr. Beck:

About two weeks ago, our family visited the Beaumont Memorial at Mackinac Island. You have an excellent memorial to a man who had done so much for medicine. It isn't the usual junk exhibit that one sees so often in an historical museum and has no musty unkept odor. I liked very much the way the furniture and case reports were displayed. The whole exhibit is in excellent taste—to my way of thinking.

Perhaps you are amazed that a visitor would write about it—but—for many years I was employed as a reference librarian at the American Medical Association in Chicago. Now that we have been transferred to Columbus and I seem to be unemployable down here, I still retain my interest in medicine and its literature. Whenever we are on a holiday, I usually take in any medical exhibits that I run across.

Sincerely,
LILLIAN F. SMYTH
(Mrs. William J. Smyth)

Columbus, Ohio
August 31, 1958

THE DOCTOR'S LIBRARY

Acknowledgments of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them. A selection will be made for review, as expedient.

READINGS IN MEDICAL CARE. Edited by the Committee on Medical Care Teaching of the Association of Teachers of Preventive Medicine. Chapel Hill: The University of North Carolina Press, 1958. Price, $6.50.

A news item from the University of Michigan announced that one of the professors in the Department of Public Health, A. J. Axelrod, M.D., was one of the five authors of a new book about to be published by the University of North Carolina Press. That book has been received for review, and we have studied it searchingly. It contains articles which have been written by numerous professors.

The book is a very elaborate preparation dealing with "Problems in Medical Care," including the prospective student and how he should be trained and encouraged to have an altruistic and possibly missionary concept of life; a chapter on "The National Health Picture," which is largely references, and a chapter on "Adequacy of Medical Care," discussing quantitative and qualitative care. There is also a discussion of how charges have been made from time immemorial, the various charges, and mention of all sorts of methods of determining charges and costs. The nation's medical bill and the private bill are discussed extensively, as is also the physician's education and qualification, licensure, the rural doctor, and income and methods of payment. There is mention of the belief that relative values are improper as regards general practice and specialization.

"Hospitals and Their Organization" including the physician's relations in the hospital, "Co-ordination of Health and Medical Service," "Medical Group Practice," "Integrating Prevention and Cure," "Care of Long-Term Illness," "Rural Medical Care," "Public Medical Care," "Medical Care in Industry," are all touched upon.

A chapter on "Medical Care Insurance" is rather intriguing. It mentions voluntary medical care insurance, the organization of Blue Shield, California having the first state-wide plan, and the role of government in insurance. It goes back and quotes Oscar Ewing, Harry Truman, Ernest P. Boaz, and has a short item on President Eisenhower's proposal of several years ago to reinsure the insured—long since abandoned.

In the last chapter on "Principles and Proposals," the voluntary non-profit programs are mentioned inadequately as compared with the stress and emphasis on groups and controlled HIP plans.

CLINICAL ORTHOPAEDICS. By Anthony F. DePalma, Editor-in-Chief, with the assistance of the Associate Editors, the Board of Advisory Editors, the Board of Corresponding Editors. *Number Eleven*, Spring, 1958. Philadelphia and Montreal: J. B. Lippincott Company, 1958. Price, $7.50.

This volume, like its predecessors, devotes its primary discussion to a given subject, in this case that of geriatric orthopedics. This discussion is largely limited to surgery of the aged, particularly related to fractures and their by-products, and does not cover the nonoperative or office problems that this age group also presents. The presentation is well outlined and illustrated, with its appeal largely directed to the orthopedist and not the occasional practitioner of orthopedics.

The remainder of the volume, as in other issues, deals with a varied list of topics, many of them of great interest to any practitioner, such as a discussion of the low back syndrome.

This series should be collected as a whole, for in its entirety, it constitutes an excellent review of orthopedics in symposium form.

R.H.A.

CLINICAL OBSTETRICS AND GYNECOLOGY. Volume 1, Number 2. Toxemias of Pregnancy, edited by Louis M. Hellman, M.D. Fibromyomas of the Uterus, edited by Robert A. Kimbrough, M.D. New York: Paul B. Hoeber, Inc. Medical Book Department of Harper & Brothers, 1958.

This book is the second of a series on clinical obstetrics and gynecology. This consists of a symposium on "Fibromyomas of the Uterus and Toxemias of Pregnancy." The subject of fibromyomas of the uterus includes their relationship to sterility, pregnancy, and the urinary tract. The surgical treatment is very detailed and the photographs are excellent. However, this symposium is primarily of interest to the gynecological surgeon.

The section on toxemias is very well written. It begins with the chemical variations of the pregnant woman as compared to the non-pregnant individual. The uterine circulation, pathology of placenta and the endocrine aspects of toxemia are subjects of special interest to the clinician. The symposium concludes with a comprehensive subject, "Causes of Maternal Death in Toxemia."

Excellent references are included at the end of each chapter and a complete subject index is included for both volumes of this series.

J.R.P.

HEALTH BULLETIN FOR TEACHERS. Vol. xxvii No. 1, June, 1958. For distribution to Teachers. Published by Metropolitan Life Insurance Company, 1 Madison Ave., New York 10, N. Y.

The Metropolitan Life Insurance Company for years has been sending a bulletin to teachers an average of four times a year. This year the bulletin is devoted largely to the medical profession—its aims, traditions and accomplishments. This present number is a particularly well-written and balanced four pages of valuable and understandable information.

THE RELATION OF PSYCHIATRY TO PHARMACOLOGY. By Abraham Wikler, M.D., National Institute of Mental Health, Addiction Research Center, Department of Health, Education and Welfare, Public Health Service Hospital; Lexington, Kentucky. Published for the American Society For Pharmacology and Experimental Therapeutics. Baltimore: The Williams & Wilkins Company, 1957. Price, $4.00.

In recent years, there has been an amazing increase in the use of chemical agents in the investigation of and the treatment of functional behavioral disorders. The interest in these investigations has been wide spread and has involved a number of disciplines. Since communication and liaison between those disciplines most vitally interested, pharmacology and psychiatry, has not been the best, a review of the pertinent literature seemed in order.

This review is a survey of the publications in English, French, and German during the period from 1930 to 1955. The drugs considered are: insulin, carbon dioxide, barbiturates and other anesthetics, amphetamine and metamphetamine, pipradrol, chlorpromazine, reserpine, metrobamate, azacyclonol, d-lysergic acid diethylamide, and mesdaline.

The first section, "The Effects of Drugs on Human Behavior," includes chapters on: "The Production of Coma," "Psychoexploration," "Tranquilization," "Arousal and Elevation of Mood," and "The Production of 'Model' Psychosis." In the second and larger section, the material is arranged under the following titles: "Biochemical Aspects," "Biochemical Mechanisms of Drug Action," "Neurophysiological Aspects," and "Psychological Aspects."

The book is well arranged, adequately documented, and fulfills the purpose of the author.

F.O.M.

CLINICAL ORTHOPAEDICS. By Anthony DePalma, Editor-In-Chief, with the assistance of the Associate Editors, the Board of Advisory Editors, the Board of Corresponding Editors. *Number Ten*, Fall, 1957. Philadelphia and Montreal: J. B. Lippincott Company, 1957. Price, $7.50.

This volume's primary concern is with affections of growth centers, continuing this excellent series' characteristic of presenting a given subject in symposium form. Aimed at the orthopedist, it selects several, but by no means all, of the growth centers and discusses them from standpoints of physiological changes following trauma, developmental variations, et cetera.

The remaining three sections deal with the pathologic physiology of metabolic bone disorders, general orthopedics, and the usual final section containing scattered brief items of a general nature.

This volume, as its predecessors in the series, is a must for all those interested in orthopedics.

R.H.A.

MEMOIRS OF A GP. By Otis Marshall, M.D. New York, Washington, Chicago, Hollywood, Toronto: Vantage Press, 1958. Price, $3.50.

The title of this book is somewhat misleading in that it is really an autobiography, beginning with the author's earliest recollections, and advancing through childhood, schools and finally the practice of medicine. In the literal sense of the word, the author was a general

practitioner, but of his fifty years since graduation, only about half of the time was spent in the actual general practice of medicine. The remaining time was spent as industrial physician in the mines and a paper company, as an employe of the American Red Cross, and medical director of a home for the aged, as well as a year as a patient in a psychiatric hospital.

The book is very simply written, at times bordering on the primer type of grammar. It is liberally sprinkled with references to cases of diphtheria, tetanus, smallpox and other diseases, and injuries rarely seen in the present day, but there is very little to recommend it as informative or constructive reading.

C.W.R.

A DOCTOR SPEAKS HIS MIND. By Roger I. Lee, M.D. Boston and Toronto: Little Brown and Company. Price $3.00.

This little book of 120 pages is an interesting and humorous discourse of the personal opinions of a physician in regards to many items concerned with medicine. He is a champion of the general practitioner, against too much specialization, government intervention in medicine, patent medicines, statistics, and so forth. Other points touched on include vacations, publicity, the number of doctors, public health, Blue Cross, et cetera.

H.E.A.

THE CLOSED TREATMENT OF COMMON FRACTURES. By John Charnley, B.Sc., M.B., F.R.C.S., Orthopaedic Surgeon, Manchester Royal Infirmary; Orthopaedic Surgeon, The Park Hospital, Davyhulme; Orthopaedic Surgeon, Wrightington Hospital; Lecturer in Orthopaedics, Manchester University; Late Hunterian Professor, Royal College of Surgeons. Second Edition. Baltimore: The Williams and Wilkins Company, 1957. Price $10.00.

This edition, like the first, should not be mistaken for an elementary manual designed for beginners, but a well illustrated and written (in the English tradition) plea for the closed treatment of fractures.

In detail is described the many principles and steps necessary to effect a successful reduction of a given fracture, which specific steps are too often glossed over in many of our fracture texts.

This book is as valuable to the orthopaedist as to the occasional practitioner of trauma, but particularly to those whose practical experience has yet to match their theoretical knowledge.

R.H.A.

COLD INJURY, GROUND TYPE. Medical Department, United States Army. Prepared under the direction of Major General S. B. Hays, The Surgeon General, United States Army. Editor-in-Chief, Colonel John Boyd Coates, Jr., MC. Associate Editor, Elizabeth M. McFetridge, M.A., Office of the Surgeon General, Department of the Army, Washington, D. C. By Colonel Tom F. Whayne, MC, USA (Ret.), Professor of Preventive Medicine, School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, and Michael E. DeBakey, M.D., Professor of Surgery and Chairman of the Department, Baylor University College of Medicine, Houston, Texas. Formerly Colonel, MC, AUS. Price $6.25.

This book is undoubtedly the most comprehensive volume available on the subject. There are 105 excellent illustrations, fifty-two tables and thirty-two charts included. The subject is covered most thoroughly from historical epidemiology, pathogenesis and clinical descriptions to treatment and prevention. Descriptions of some of the battles in various theaters of World War II make for interesting reading. For those interested in this subject, this book is highly recommended.

H.E.A.

BOOKS RECEIVED

THE NATIONAL FOUNDATION FOR INFANTILE PARALYSIS. ANNUAL REPORT, 1957. The National Foundation For Infantile Paralysis. Franklin D. Roosevelt, Founder. 800 Second Avenue, New York 17, N. Y.

HEALTH INFORMATION FOUNDATION. ANNUAL REPORT, 1957-1958. 420 Lexington Ave., New York 17, N. Y.

A REPORT OF THE NATIONAL ASSOCIATION OF SCIENCE WRITERS, INC. Science, Who Gets What Science News; The News, Where They Get It; and The Public, What They Think About It. Text by Hillier Krieghbaum, Chairman, Surveys Committee, National Association of Science Writers, and Associate Professor of Journalism, New York University. National Survey conducted by The Survey Research Center, University of Michigan, for The National Association of Science Writers and New York University. New York University Press. 1958.

Classified Advertising

$2.50 per insertion of fifty words or less, with an additional five cents per word in excess of fifty.

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WANTED: Physician to take over well-established general practice in city of 200,000 population in Northeast Michigan. Ideally located in growing suburban area. Modern, fully equipped office on ground floor. Will rent or sell on terms. Write Box 13, 606 Townsend Street, Lansing 15, Michigan.

PSYCHIATRY RESIDENCY—TRAVERSE CITY, MICHIGAN. Balanced didactic and clinical training in flexible program. Salary range: (First to fifth year) $6,493, $7,642, $9,250, $9,688, $10,544. Appointments available January and July, 1959. Write Dr. Curtis W. Page, Director of Training, Traverse City State Hospital, Traverse City, Michigan.

WANTED: Good young or middle aged physician for a large general practice. Established over forty years. Good manufacturing town, good churches, good school, hospitals within seven and fifteen mile radius. Will sell or lease office complete. Retiring. Contact: Box 16, 606 Townsend Street, Lansing, Michigan.

FOR SALE: Well-established general practice in city of 200,000, northeastern Michigan. Ideally located in growing suburban area. Modern, fully equipped office on ground floor. Will rent or sell on terms. Contact Box 13, 606 Townsend Street, Lansing, Michigan.

WANTED: Associate in General Practice, southern Michigan. Preferably with some training in obstetrics and gynecology, or internal medicine. Very active demanding practice. New office building suitable for two men. Town of ten thousand. Hospital conveniently located. Reply Box 14, 606 Townsend Street, Lansing 15, Michigan.

WANTED: By future medical missionary, temporary medical employment to June, 1959. Southern Michigan area. Experience includes residency one year GP, one year Surgery and one year X-ray. Contact: W. K. Hicks, M.D., 672 Capital Ave. S.W., Battle Creek, Michigan. Telephone WOodward 4-7272.

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